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Chicago. Railway Terminal Commission

Preliminary report, Chicago
Railway Terminal Commission, submitted to City Council Committee
on Railway Terminals, March 29,
1915

PRELIMINARY REPORT

Chicago Railway Terminal
Commission

Submitted to
City Council Committee
on
Railway Terminals

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PRELIMINARY REPORT

Chicago Railway Terminal
Commission

Submitted to CITY COUNCIL
COMMITTEE ON RAIL-
WAY TERMINALS

MARCH 29, 1915

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CLARK ST.

ARCHER AVE

TAYLOR ST.

12TH ST.

14TH ST.

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18TH ST.

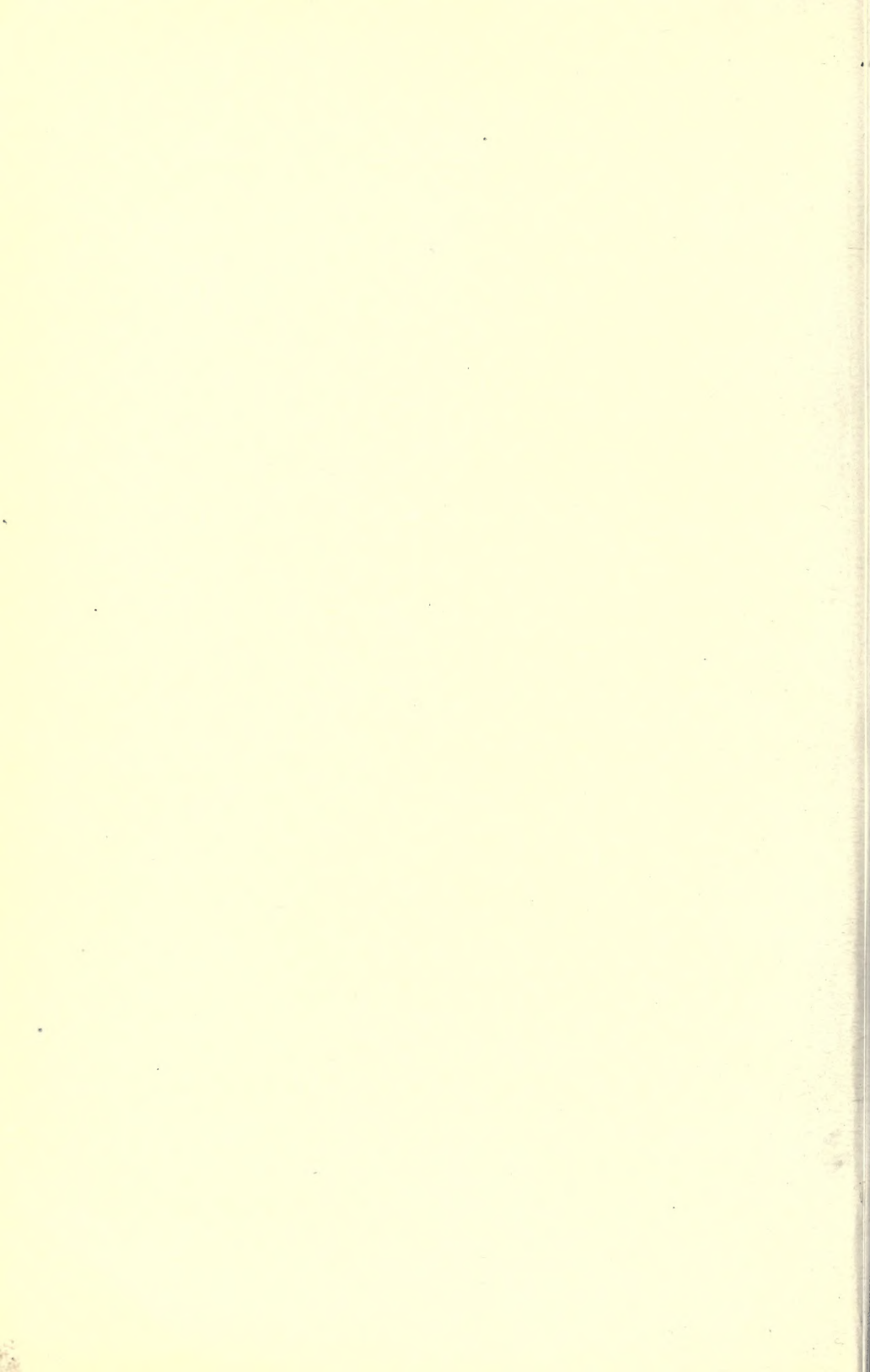


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LETTER OF TRANSMITTAL

City Council Committee on Railway Terminals:

GENTLEMEN :

The Railway Terminal Commission transmits herewith a preliminary report on the Chicago railway terminal situation.

Since its formation, May 25, 1914, your Commission—collectively, separately and through its staff—has been engaged in the collection of data and in a study of the terminal situation.

In addition to the Chicago situation, the Commission—as set forth more specifically in its report—has made personal examination on the ground of the terminals of Toronto, Montreal, Boston, New York, Liverpool, Manchester, London, Paris, Brussels and Antwerp.

Your Commission considered, analyzed and reported to your Committee on the application for an ordinance filed by the Chicago & Western Indiana Railroad Company, providing for the construction of a temporary annex to its Dearborn Street Passenger Station, in order to provide for the care of its immigrant and suburban passenger business. The Commission secured from the Chicago & Western Indiana Railroad Company consent to a provision in the ordinance—substantially similar to that contained in the Union Station ordinance of the Pennsylvania Railroad and its associates—for the straightening of the Chicago River. This ordinance is still pending before the City Council.

Your Commission also investigated and reported to the Committee on Local Industries upon an application by the Baltimore & Ohio Chicago Terminal Railroad Company authorizing certain additional main tracks, a new coach yard and other facilities. This ordinance required the consideration of the Commission and its staff during a period of nearly two months and involved a personal inspection of the ground and repeated conferences with the officials of the Baltimore & Ohio Chicago Terminal Railroad Company, and Mr. Daniel Willard, Chairman of the Board, and also President of the Baltimore & Ohio Railroad Company. A report was finally made to the Committee on Local Industries on January 26, 1915, and an ordinance embodying the suggestions of the Commission was recommended to the City Council by the Committee on Local Industries, and passed

by the City Council on February 19, 1915. This ordinance—by providing the Baltimore & Ohio Chicago Terminal Railroad Company with a new coach yard and the facilities connected therewith—enabled it to vacate its present holdings, thereby removing practically the last obstacle to the Union Station project. A provision consenting to the straightening of the Chicago River—substantially similar to that contained in the Union Station ordinance—was also secured from the Baltimore & Ohio Chicago Terminal Railroad Company.

Interviews with the officials of other railroads abutting on the Chicago River lead the Commission to believe that favorable consideration by these railroads can be secured for the river straightening project and that its accomplishment can be brought about more speedily than has been generally supposed.

Your Commission has also acted in an advisory capacity to the Chicago Municipal Markets Commission and has given considerable time to the investigation and study of the transportation and terminal aspect of this project—which it still has under consideration.

It has been conferred with and has attended various Committee meetings and conferences in connection with the Lake Front project.

It has investigated the general freight situation in Chicago, and in the report appended hereto will be found the preliminary results of these studies.

It has continued the investigation of the passenger terminal situation as a whole, and the preliminary results of this investigation are outlined in the attached report.

Your Commission has also had referred to it five ordinances and fourteen resolutions, orders and communications in regard to electrification and smoke abatement. This subject is so important that your Commission has felt that it would be unwise to formulate its views thereon until after the formal report of the Chicago Association of Commerce Committee of Investigation on Smoke Abatement and Electrification of Railway Terminals has been made public, and the Commission can have the benefit of the facts and recommendations therein set forth. It is very important that the Commission should have this report before arriving at final definite conclusions in regard to important details of the general terminal situation, as it is expected that this report—the result of the study of a special Commission which has spent four years and several hundred thousand dollars in the accumulation of facts and in the investigation of this project—will contain data and information of the greatest value. It is generally understood that the question of the electrification of the

roads and the rearrangement and unification of trackage facilities are so interlaced that they should be carefully considered in conjunction with each other.

Your Commission finds the terminal situation so complex and so many interests involved that the attached report is simply submitted as a preliminary progress report in order that your Committee and the City Council may be intelligently advised as to the progress made to date.

It is clearly apparent that important applications to the City Council will be made in the near future for changes in the terminals of various railroads, and these applications will afford valuable opportunities for improving our terminal situation as a whole.

Among these will be:

First—The application for such privileges as the Illinois Central Railroad Company may need in order to provide a new passenger terminal on the Lake Front and access thereto by other railroad lines which may be induced to use this terminal, in connection with which it will be of vital importance to safeguard the interests of the City, especially with respect to access to the proposed harbor improvements for rail and vehicular traffic.

Second—The application for radical changes in freight and passenger terminals of the Chicago & Western Indiana or Chicago Belt group of roads, which changes these roads have been studying and discussing for some time.

Third—The application for changes in both the passenger and freight terminals of the Lake Shore and Rock Island roads. These changes seem to be inevitable and are believed to be under contemplation for the not distant future. Out of these changes and the changes under consideration by the Western Indiana group of railroads, should evolve an intensive co-operative freight development in the territory north of Sixteenth Street, between Clark Street and the Chicago River straightened. It may possibly involve a new co-operative passenger terminal for some of the above mentioned and other railroads—such as the Baltimore & Ohio—somewhere in the territory between State Street and the Chicago River.

Fourth—Applications for the location and the development of one or more produce terminals. This matter is now under serious consideration, and several localities have been suggested, the selection of which is a matter of grave importance to the City of Chicago, the produce merchants and all the various railroads.

The study of the general railroad situation in Chicago has led your Commission to believe that any adequate terminal policy or plan

should include the treatment of the railroad situation embraced in the entire Chicago terminal area in its social, industrial, commercial and transportation interests.

Your Commission hopes the Committee will appreciate the difficulties that surround the solution of the railway terminal problem and again calls your attention to the fact that the attached is necessarily but a preliminary report, showing progress to date.

Respectfully submitted,

John F. Harlowe Chairman.

PRELIMINARY REPORT
OF THE
CHICAGO RAILWAY TERMINAL
COMMISSION



PRELIMINARY REPORT
OF THE
CHICAGO RAILWAY TERMINAL
COMMISSION

The Chicago Railway Terminal Commission was created by a resolution which was adopted at a meeting of the City Council held May 25, 1914, said resolution being as follows:

WHEREAS, The City Council Committee on Railway Terminals has been engaged for a year past in the consideration of the location of freight and passenger terminals for the Pennsylvania Railroad Company and other railways; and

WHEREAS, In the consideration of the problems presented the committee has received timely and efficient assistance from the Citizens' Terminal Plan Committee and the Chicago Plan Commission of the City of Chicago in its labors; and

WHEREAS, Other railway terminal questions will arise in the near future requiring a broad and comprehensive study and investigation of the railway terminal situation and a study of the questions involved in locating terminals from a technical standpoint to the end that future railway terminals may be located with regard to the best interests of the citizens of the City of Chicago, the railways and the traveling public; now, therefore, be it

Resolved, by the City Council of the City of Chicago, That there be and hereby is constituted a railway terminal commission to consist of the following seven members:

Walter L. Fisher, Bion J. Arnold (upon recommendation of the Citizens' Terminal Plan Committee of the City of Chicago), E. H. Bennett (upon recommendation of the Chicago Plan Commission of the City of Chicago), whose compensation is not to be paid by the City of Chicago; the Commissioner of Public Works, the Corporation Counsel of the City of Chicago, the chairman of the Committee on Railway Terminals, and John F. Wallace, the compensation of said Wallace to be paid by the City of Chicago. Said John F. Wallace is hereby appointed and shall act as Chairman of said Railway Terminals Commission, and in case of his death, resignation, or inability to act, his successor shall be appointed by the Committee on Railway Terminals.

The term of office of said commissioners shall expire the first day of April, 1915.

The duties of said Commission shall be to make a comprehensive, adequate and expert study of the passenger and freight railway terminal situation and problems, present and future, in the City of Chicago, and to advise the City Council or its committees upon any matters connected with or relative to railway terminals and to render reports to the City Council from time to time of the results of its investigations, provided, however, that said Commission shall make a full report of its investigations, if possible, not later than January 1, 1915.

In case of a vacancy occurring in said Commission by reason of death, resignation, removal from the city or any other cause, the vacancy so caused may be filled in the manner prescribed for the original appointments.

HISTORY.

The Columbian Exposition, held in Chicago in 1893, did much to awaken the citizens of Chicago to a civic pride, and out of the spirit engendered at this time there was produced what is known as the "Chicago Plan."

In 1908, the City of Chicago officially accepted from the Commercial Club of Chicago a report on the Plan of Chicago, prepared under the direction of the late Daniel H. Burnham. With the authority of the City, the Mayor appointed a Plan Commission and transmitted to it the report of the Commercial Club, for study and development. This was the first organized effort for creating a general plan for the future development of the City and has formed the basis of the work of the Chicago Plan Commission, looking towards the execution of a comprehensive plan for a harmonious and systematic development of the City.

The necessity for improvement and reorganization of the freight terminals of Chicago is pointed out in the report and the strongest kind of recognition given to the economic waste that is going on in Chicago by reason of the lack of arrangement and co-ordination of the railroad facilities. In this connection, recommendation was made for a common freight handling center properly related to all the railroads in the downtown district and to the docks.

It was proposed to group the passenger stations in two general locations to the west and to the south of the center of the city and to connect them—not only with each other—but with the downtown and outlying areas by means of properly co-ordinated local transportation facilities and an adequate street system. The bearing of these important problems on the economic life of the City was carefully

pointed out. The statement was made that the prosperity of the City in its relation to other cities in the country was dependent on the proper handling of these problems.

The members of the Plan Commission early saw that a solution of the terminal situation was largely essential to the development of their plan, and the publicity incident to this work induced other architects and engineers to give study to the subject and to evolve plans for terminal development.

The thought and agitation which had been carried on for several years along these lines culminated when—early in 1913—the Union Station Company, which furnishes station facilities for a group of railroads on the west side of the Chicago River at Adams Street, made application to the City for an ordinance providing for a new terminal station.

To meet the situation, the City Council in its organization—after the election of May, 1913—created a standing Committee of the City Council, known as the City Council Committee on Railway Terminals. This Committee took up for discussion the ordinance submitted by the Union Station Company. In order to encourage the fullest possible consideration—not only of the Union Station ordinance, but of the general railway terminal problem in Chicago—this Committee invited all those interested to appear before it and present their views on the subject. As a result of this program, meetings were held several times a week during May and June, 1913, and a number of persons who had worked out schemes for the solution of the terminal problem appeared before this Committee and were given every opportunity to present the merits of their respective plans.

The officers of the Plan Commission submitted terminal plans based on study and analysis of the situation in the business district and congestion on the streets. These plans made many suggestions for the improvement of the street system in the central terminal district along the lines of the Chicago Plan. The original plans of Fred-eric A. Delano for the establishment of terminals at Twelfth Street, and plans prepared by Jarvis Hunt, Architect, Pond & Pond, Architects, and Guenzel & Drummond, Architects, were also submitted.

All of these plans possessed ideas of merit and the public should appreciate the time, labor and expense so generously contributed towards a solution of the terminal problem.

The presentation of these plans, together with the discussions relating thereto, extended over a period of several weeks and resulted in a typewritten record of over 1,500 pages. While these

hearings were of great value to the community, it was the general impression that an intelligent consideration of the subject by the City Council Committee on Railway Terminals would be materially assisted by having the great amount of information thus produced reviewed by an expert engineer or engineers.

The City Club of Chicago—through its President, Alfred L. Baker—made a suggestion that the Committee create a commission of experts to report on the subject of railway terminals.

Consideration was given to this suggestion by the Committee, but it finally reached the decision to engage John F. Wallace to make a report on the railway terminals of the City of Chicago, and on the effect the pending ordinance would have on the railway terminal situation.

The Citizens' Terminal Plan Committee—representing disinterested citizens organized for the purpose of securing a broad investigation and study of railway terminals in Chicago—engaged Bion J. Arnold to make a comprehensive study and report on the general terminal situation and to review the plans submitted by the Committee as well as the report of Mr. Wallace. Later it also retained Walter L. Fisher to represent it before the Council Committee.

After receiving these reports, the Committee proceeded to a consideration and discussion of the problems involved. In addition to the members of the Committee and the representatives of the railroads interested, these conferences were participated in by John F. Wallace, Engineering Advisor of the City; Bion J. Arnold and Walter Fisher, representing the Citizens' Terminal Plan Committee; Charles H. Wacker and his associates, Walter L. Moody, Frank I. Bennett, Edward H. Bennett and Paul Lazenby, of the Plan Commission of Chicago; John W. Beckwith, Assistant Corporation Counsel (afterwards Corporation Counsel); Lawrence E. McGann, Commissioner of Public Works, and many citizens interested in a solution of the terminal situation.

As a result of these conferences and hearings, what is known as the Union Station Ordinance and Pennsylvania Freight Ordinance were passed by the City Council on March 23, 1914, and afterwards accepted by the railroads interested.

These ordinances—while securing to the railroads a location for their Union Station and freight facilities of undoubted value—also secured to the City substantial advantages and street improvements, many of them elements of the Chicago Plan, which cannot be measured wholly by a commercial standard. Among these were the following:

- The widening of viaducts between Canal Street and the River to the full width of the street at uniform grades;
- The opening up of Monroe Street between Canal Street and the River;
- The widening of Canal Street and the establishment of a more uniform grade thereon;
- Provision for a double-decked connection between Canal Street and the North Side;
- Provision for the ultimate opening of Congress Street to the width contemplated in the Chicago Plan;
- Agreement to co-operate in the straightening of the South Branch of the Chicago River.

The abandonment of the proposed freight terminal of the Pennsylvania between Jefferson and Desplaines Streets and the consequent more intensive development of the property situated between Canal Street and the River, will have a valuable effect in paving the way to a more intensive use of railroad property in other sections of the city and to a more complete development of the Chicago Plan.

The provision in the ordinance for the straightening of the Chicago River between Polk and Sixteenth Streets has already been the means of bringing other railroads interested to a recognition of the advantages that would accrue in the straightening of the River, and may—in the near future—make possible the realization of this object, which is of such vital importance and interest to the City.

The City Council Committee on Railway Terminals, the members of the City Council and the executive officers of the City Government realized that the framing of the Union Station ordinance was but one step in the ultimate solution of the railway terminal problem in Chicago.

The members of the City Council Committee on Railway Terminals felt that the engineers, lawyers and architects who had to do with these negotiations, had acquired a fund of general information and an experience which specially qualified them for carrying on the study of the railway terminal situation, and it was convinced that it would be a matter of good judgment and policy not only to provide for a Railway Terminal Commission which would continue the work started with these deliberations, but also that the persons who had been acting in an advisory capacity to the Committee—by reason of the experience which they had in the deliberations just closed—would be best fitted to carry on the work, and accordingly recommended to the City Council the resolution creating the Railway Terminal Commission.

Shortly after its appointment, the Commission held a meeting for purposes of organization and to discuss a program for carrying out its future activities.

As a rule, the City Council adjourns early in July for the summer vacation. During this period it is also customary for the responsible heads of the railroads to absent themselves from Chicago more or less continuously, and it was brought to the attention of the Commission that—on account of these facts—its activities would be very much restricted during the summer months.

The educational value of an inspection and study of terminal facilities in the larger cities of this country and Europe had been discussed by the Commission, and it had been suggested that the individual members of the Commission might so arrange their vacation trips as to include an inspection of terminal facilities, both in this country and Europe. This suggestion was afterwards taken up by the City officials, and it was finally decided that it would be very desirable if the Commission as a body would formally undertake such an inspection, and this trip was made possible through the cordial co-operation of Mayor Harrison, who provided from his contingent appropriation for the expenses of the official representatives of the City.

In discussing this proposed inspection, it became apparent that it would be desirable to have the Chairmen of the Committees of the City Council that would have jurisdiction over subjects likely to be affected by the findings of the Commission; also, representatives of civic associations and representatives of steam roads and traction lines, accompany the Commission.

It was accordingly arranged that—in addition to the members of the Commission—the party should be made up of the Chairmen of the following Committees of the City Council: Finance; Local Industries; Harbors, Wharves and Bridges; and Streets and Alleys; also, a representative of the Association of Commerce, of the City Club, and of steam railroads and traction lines.

After the party was made up along these lines, it was decided by the Mayor that it would be desirable to have representatives of the Board of Education and the Chairman of the Committee on Health accompany the party and make independent investigations along lines of interest to them.

After visiting Toronto, Montreal, Boston and New York, the party sailed for Europe in July, 1914, where an investigation of railroad terminal and harbor facilities was made at Liverpool, Manchester, London, Paris, Brussels and Antwerp.

It was the plan of the Commission to visit Frankfort, Vienna, Budapest, Dresden, Berlin, Hamburg, Kiel, Copenhagen and Stockholm, but on account of the outbreak of the war in Europe, soon after the party reached Belgium, it was necessary for it to return to London, where it disbanded.

At all of the places visited every courtesy was extended to the Commission to facilitate its investigations. Numerous conferences were held with local officials and much profitable information secured.

The practice of maintaining and operating independent railroad facilities serving the harbors of Liverpool, Manchester, London and Antwerp—which permitted all connecting railroads to reach the harbor facilities on terms of absolute equality—impressed the Commission as being applicable to any future plan of harbor development for Chicago.

The Commission also learned that the officials in charge of railroad operation in London had given serious consideration to the possibility of making such changes in their terminals as would permit the interchange of passenger traffic by rail between the various stations, so that the suburban trains entering one station could be routed through to stations of other railroads.

It was stated by the General Manager of an English railroad—who was formerly General Superintendent of a railroad in the United States—that such an arrangement would reduce congestion at East End stations at least 50 per cent; that it would enable passengers arriving at the East End stations to continue on to the West End stations and vice versa; and it was also stated that it would probably be found advantageous to extend this service so that it would be possible to inaugurate through routing of suburban trains.

It was learned that part of the suburban service of London had been electrified; that this electrical operation had been satisfactory and that the proposition to extend electrification to apply generally to the suburban traffic of the railroads was under consideration.

In Paris it was found that through passenger trains were being routed through Paris to a limited extent and that some of the officials were believers in the principle of through routing of trains; and the possibilities of making connections that would permit of through routing, were pointed out to the Commission, showing that this principle is receiving consideration.

It was found in Brussels that a new station was under construction with the intention of making possible through routing of trains, but in this case the application of through routing was being made

on account of local conditions which strongly favored this method of operation.

Since returning to this country, the Commission—in addition to giving consideration to the several matters referred to it by various committees of the City Council—has given extended study to the railway terminal problem in Chicago, especially in its broader aspects.

Numerous sessions have been held in which the subject has been under discussion and at a number of these meetings responsible heads of the important railroads entering Chicago have been present and have discussed the subject quite freely.

Individual members of the Commission have held extended interviews with representatives of railroads, shippers and general business interests and have reported to the Commission the facts, opinions and points of view brought out at these interviews.

Due consideration has been given to the information gained by a study of the terminal situation in the other large cities of this country and of Europe and of the statistical information collected in reference to the Chicago terminals. As a result of this study and discussion, the Commission feels that it has sufficiently progressed in its investigations to be in a position to set forth in this preliminary report certain fundamental conclusions in regard to the solution of the railway terminal situation in Chicago, and outline in a general way some of the steps which may be taken at this time towards carrying these conclusions into effect.

FUNDAMENTAL PRINCIPLES.

The fundamentals of a correct railway terminal policy are that—so far as the character, location and operation of such terminals do effect or can effect these things—they shall

- Enable the railroads to handle their passenger and freight traffic in what will be to them the most economical and the most efficient manner;

- Enable shippers to receive and deliver freight, and passengers to reach and depart from trains, in what will be to them the cheapest, quickest and most convenient manner;

- Enable the general public to conduct its business with the least practicable congestion of the City's streets and the least practicable interference with the expansion of existing business districts and the development of new areas of commerce and industry;

- Enable the City, as a whole, to recognize that above all it is a place where many human beings live and labor, and to establish and work out those plans of physical development

—both residential and commercial—which will most effectively conduce to the prosperity, health and happiness of its individual inhabitants.

The modern city is created by commerce. Its prosperity and development depends upon commerce. Commerce depends upon transportation. Without efficient transportation modern commerce and the modern city are impossible. The most potent agency—the most essential agency—of commerce is the railway, because the railway is the greatest agency of transportation. The relations between the city as a center of commerce and the railroads as an agency of commerce are reciprocal. Each depends upon the other and each must recognize the interests and the necessities of the other. It is the prime object and purpose of the Chicago Railway Terminal Commission to study this relationship as it exists in Chicago—with particular reference to railway terminals—and to suggest the general principles and particular plans by which the most effective co-operation can be established for the promotion of the common interest.

The chief object of any proper plan for the solution of the railway terminal problem must be to secure for the railroads and for those who use the railroads—passengers and the shippers or receivers of freight—the greatest efficiency and economy of terminal facilities and services. It is clear, however, that the greatest efficiency and economy are not secured if railway terminal facilities are not wisely located or operated; if they are unnecessarily extended or duplicated; if they needlessly interfere with the commercial or residential development of the city; if, indeed, they fail to promote the commercial convenience and residential attractiveness of the City to the fullest extent that properly devised and operated transportation facilities can promote these interests.

The most superficial examination of the railroad terminals of Chicago will show that they are neither located, constructed nor operated as efficiently or economically as they should be, whether viewed from the municipal or from the railroad point of view. In Chicago, as elsewhere, the present situation is largely the result of past conditions for which it would be profitless—even if it were possible—to apportion the responsibility. Our problem is to deal with the situation as it is, and to point out how it can be improved.

If all the railroads which enter the City of Chicago could be treated as one interest, and if we were now for the first time establishing terminal tracks and facilities for these roads, the problem of outlining a system of railway terminals to connect the various centers of traffic within the City with the trunk lines at the City limits would

be comparatively simple. Today, however, the chief usefulness of considering such a problem is to discover to what extent there is at present a needless, or least an uneconomic, complication of railroad terminal facilities within the City.

If all of the railroads entering Chicago were owned and controlled by one interest, or were being operated with the sole view of producing as a whole the most efficient service and the largest net revenue, it is certain that the existing terminals and terminal approaches would be simplified and consolidated and that property no longer needed for consolidated or unified operation—after making due allowance for the future growth of traffic—would be disposed of. The remaining properties would be utilized to their full capacity by using them for several—or all—lines instead of for one road, or for a few lines as at present. Unnecessary and complicated crossings would be eliminated and valuable real estate would be intensively improved.

An ideal system of railway terminals cannot be substituted for the terminal tracks and facilities which already exist within the City. All of the railroads entering Chicago are not owned or controlled by a single interest. Neither these railroads nor their terminals can be operated with the sole view of producing as a whole the most efficient service and the largest net revenue.

Nevertheless, the measure of the correctness of any solution of the terminal situation must be the nearness with which it approaches the ideal solution thus suggested.

EFFECT OF COMPETITIVE THEORY.

We have adopted in this country the principle of governmental regulation of privately owned railroads and that principle should logically be applied to the entire railroad situation. Its partial application has necessarily resulted at one time in treating the railroads as regulated monopolies and at another time in enforcing commercial competition between them. One or the other of these principles must give way. It is proving impossible to maintain a balance between them. Even those who believe that we can still maintain a certain degree of competition—while at the same time applying the general principles of regulated monopoly—must concede that one or the other of these principles must be dominant.

It must be apparent that in a business essentially monopolistic, efficiency and economy is to be found in the substitution of co-operation under public regulation for at least that kind or degree of com-

petition which is destructive and wasteful. This applies to the whole field of railroading, including terminal facilities and services.

Public statements have recently appeared from distinguished railroad officials, emphasizing the enormous waste due to the unnecessary and uneconomic duplication of freight and passenger facilities and services.

Where there are several railroad routes between two points, it is a safe general deduction that—when distances, grades and other operating elements are compared—through traffic between these points can be moved most economically—and most efficiently—over one of these routes, to the extent of its reasonable capacity. Both the public and the railroads as a whole lose to the extent that any part of the traffic is moved at an unnecessary cost.

In these days—when railroad rates are being increased with the approval of the Interstate Commerce Commission because the net revenues of the railroads as a whole are not regarded as adequate to sustain general railroad credit, as well as to pay fair dividends for individual roads—it is clear that, to the extent that traffic is not carried over the most economical line, the public is bearing an unnecessary burden.

The difficulty is that as long as each railroad is considered apart from all others and as a competitor of all others, each railroad seeks to obtain as much traffic as possible—certainly if it can be moved at any profit whatever to the particular road—even though the traffic thereby moves over longer distances and heavier grades than are encountered on other lines. Under this system the total traffic cost must be greater than is necessary and this unnecessary cost must be borne by the public.

From the railroad point of view the remedy for this is the permission of "pooling," and under a system of publicly regulated but privately owned railroads, it may be that legalized pooling under effective public control is the best available device for maintaining a working balance between regulation and competition—and this general conclusion has its application to the terminal situation.

European practice distinguishes the line haul from the terminal service and makes a separate charge for each. There are some indications of a tendency towards the adoption of this practice in the United States. Assuming that each charge is fair and just for the service rendered, there may be distinct advantages in separating terminal charges from haul charges, especially if it leads to the treatment of each terminal area as a unit and its operation as a unit.

In the larger cities, such as Chicago, a single terminal company could undoubtedly operate a combined and co-operative terminal system with a substantial decrease of cost and increase of efficiency. The suggestion of such a system has recently appeared from railroad sources in Chicago.

If a single terminal company should take over—by lease or operating agreement—all of the existing terminals in a city like Chicago, an ideal terminal system could be approximated, and each of the existing railroads could receive its due share of the operating results, if these results were divided in direct proportion to the value of the properties which the several companies would contribute to the common terminal system. It may be that the intensive development of railroad terminals—by the construction of warehouses and other buildings—could be more easily accomplished through the agency of a terminal company than if directly undertaken by the railroads themselves.

CO-OPERATIVE TERMINALS.

With respect to terminal facilities and services, at least, the advantages of competition seem negligible when compared with its disadvantages. That the railroads themselves have recognized this with respect to passenger terminals is evidenced by the existence of Union Passenger Stations in so many of our larger cities throughout the country. An analysis of the situation will show not only that the same considerations that brought about the adoption of the Union Passenger Station apply to the terminal handling of freight, but that the very forces that brought about the Union Passenger Stations are today compelling favorable consideration of Union Freight Terminal plans.

Union Passenger Stations were brought about because of the pressure of a constantly increasing passenger traffic upon the existing terminal facilities of individual roads and the necessity of locating the terminals in or near the centers of local population. Because of the high land values—largely created by the railroads themselves—in the very localities in which it was necessary, both for the convenience of the public and the advantage of the railroads, to locate the new stations, the cost of separate individual stations became so excessive that the advantages of co-operation were forced upon the recognition of the railroads and the public. The public recognized the convenience to it of co-operative terminal facilities for passenger traffic. The railroads recognized the economy to them and the increased efficiency of co-operative Union Passenger Stations.

In substituting co-operation for competition it was not always easy to overcome the acquired or inherited ideas of an earlier era, and here and there competitive passenger terminals still survive in spite of what seem obvious disadvantages. So it has been, is, and will be in terminal handling of freight. Upon the one hand the pressure of the public and upon the other hand the necessities of the railroads will compel, first the consideration and then the gradual adoption of co-operative methods and facilities in the place of competitive methods and facilities.

Co-operation will not easily or quickly become universal. Competitive traditions and preferences will here and there survive. It is already clear, however, that the key to the solution of our railway terminal problem—with respect to freight as well as with respect to passengers—is to be found in the substitution of joint and co-operative terminals for separate and competitive terminals; this substitution to be brought about, not by some sudden or drastic adoption and execution of a complete revolutionary plan covering the whole railway terminal situation, but by such steps as may be taken from time to time with due regard to financial and operating conditions. Certain important steps of this character undoubtedly can and should be taken at once or in the near future for the establishment of co-operative terminals and the readjustment of existing terminals to conform to correct principles of terminal development. But the essential thing is that from now on no steps shall be taken in the opposite direction, thus creating unnecessary barriers to proper development in the future. The City should co-operate cordially in assisting the railroads in the execution of all plans that are in the right direction.

It is clear that the continued application of the principle of competition in terminal development can only result in increasing the difficulties of any logical improvement in the terminal facilities of the City as a whole, and it is clear that the competitive principle is anything but economical from the point of view of railway operation. In any great industrial community such as Chicago, there develops not only one principal business district, but also outlying and widely separated local centers of industry and traffic requiring facilities of transportation and offering profitable returns to the railroads which furnish such facilities. If each railroad seeks to extend its own terminals not only into the central business district but also into each of the outlying local centers, it is apparent upon principle and demonstrated by experience that the result is unsatisfactory, both to the city and to the railroads as a whole.

The complete application of the competitive system to railway freight terminals falls of its own weight. Each road cannot secure and maintain terminal facilities covering the entire terminal area of such a City as Chicago. It cannot secure, maintain and operate adequate terminal facilities in each and every section or district within the metropolitan terminal areas where important freight traffic is to be had. In many cases this is physically impracticable, and in many more cases it is financially impracticable. Nevertheless the attempt is made—under existing methods—to cover as much as possible of the entire field by separate and competitive terminals, with the resultant complication of facilities, and a financial investment not justified by the revenue secured.

In that portion of the field which a particular road is unable to reach with its own facilities, it nevertheless competes for all traffic that can be routed over its lines by having freight switched to or from it over the lines and with the equipment and force of the railroads which do physically connect with the points at which the freight is received or delivered. For these switching services, charges are made which the shipper naturally will not pay if he can route his freight over a road which has direct terminal connections and which, therefore, imposes no charges upon him. These charges are, therefore, absorbed by the competing road which does not have direct terminal connections with the particular shipping district or section. All charges thus absorbed are taken out of the amount which such a roads receives from the shipper, which is the regular Chicago rate.

This competition is so unrestrained, and—in particular instances—apparently so uninformed, that the expense to the railroad of securing freight in this manner often reduces the net receipts from such freight to a point where there is an actual excess of operating costs over the revenue received. In some instances there is an actual excess of absorbed switching charges alone over the total freight revenue received from particular shipments. In many cases where a railroad pushes its own terminals into particular districts where freight traffic is especially important, it is more than doubtful whether the traffic—thus divided between competitors—received by this railroad pays a justifiable return upon the cost of its separate competitive terminal and its maintenance and operation.

In the terminal district of Chicago as a whole—and the same thing applies to other cities—the unnecessary complication of terminal facilities and operating costs is so extensive that it is appalling in its effect upon the railroads, the shippers and the public; and the future outlook along these lines is by many—in and out of railroad

service—believed to be becoming worse and worse. The investments by railroads in unused or little used property to protect real or fancied competitive positions or interests, is also a source of great expense to the railroads and ultimately to the public—although not often fully realized as such. The interest on these investments is absorbed in the general interest charges on the entire property and is thus lost sight of as being an expense due to unproductive investments, nor is due allowance made for the natural accretion in the value of such property, which is often withheld from profitable use for considerable periods of time.

If the terminal situation were treated co-operatively instead of competitively, there would be an immediate simplification of the tangled network of tracks that now exist; the release for general commercial purposes of much valuable property now held by railroads for present competitive purposes or prospective competitive needs; the reduction of operating costs in the terminal handling of freight and the increase of efficiency. To the public this would mean not only the improvement of the service to the shippers, but the reduction of the street congestion and the removal of existing obstacles to the growth and development of the City.

PASSENGER SERVICE.

The recognition of the foregoing principles has made greater progress with respect to passenger service than it has with respect to freight service, and, fortunately, in a large city passenger terminals can advantageously be separated from freight terminals.

A single Union Passenger Station, even if principally devoted to through passenger service, should not be made so large or embrace so many roads that its very size reduces its advantages below those that would come from dividing the service between two or more Union Stations, each serving fewer roads. There is a point at which size becomes so unwieldy that it destroys or seriously lessens the advantages of combination, but short of this result the principle of co-operation should, in general, be applied to the passenger service, although local stations may still be found necessary or convenient for particular localities.

THROUGH ROUTING.

The advantages to the railroads, as well as to the public, of co-operative passenger terminals, would be more generally recognized if it were not for the mistake which has heretofore been made

in many Union Passenger Stations, of erecting monumental buildings, not only for their imposing architectural effect, but also to provide combined accommodations for through passengers and suburban passengers in the same building.

It is seriously questioned whether railroad companies are justified in imposing upon the traveling public the burden of costs due to unnecessary ornamental or monumental architecture, and the huge size of many Union Passenger Stations could be materially reduced by recognizing the different necessities of the suburban and the through service. The two classes of service do not desire or require the same accommodations. Each would be better served if given separate accommodations more directly adapted to its needs.

By through routing suburban passenger trains instead of operating them into and out of stub-end terminals as at present, the burden of the suburban service upon the railroads would be lessened and the value of the service to the public would be increased.

The suburban service is, in many respects, more nearly related to the service performed by street and interurban railway lines than to the through service of the steam railroads, and these various services can be co-ordinated with great advantage and in a manner to secure a more intensive utilization of existing rights of way.

Railroad officials have—in many instances—been deterred from favoring Union Passenger Stations because of fixed charges and operating costs due to the failure to recognize the foregoing limitations of size and cost.

FREIGHT SERVICE.

The principle of co-operative terminal facilities and services should be applied to the freight traffic as well as to the passenger traffic. Instructive applications of this principle are to be found in the operations of the Minnesota Transfer Railway at Minneapolis and St. Paul and the operations at Clearing in Chicago. Both of these enterprises are clearly demonstrating their advantages to the public and to the railroads. The original purpose and the present principle business of both these enterprises is the handling of interchange car-load freight outside of the congested areas of the cities in or near which they are respectively located, so that such freight which is not intended for consumption or use within these congested areas need not enter these areas at all. The obvious advantages and economy of this principle are so clear that it would seem to be axiomatic and yet it has received only a limited and reluctant application in American railroading.

This principle should clearly be extended so as to cover all of the traffic of the railroads entering larger centers of population and it would probably be found to be of universal application. A system embodying the same general principles should undoubtedly be applied to the interchange of less than carload (L. C. L.) freight.

A start in the application of this principle as pertaining to carload freight has been made in Chicago at Clearing, where twelve railroads now co-operate in the interchange of carload freight.

At the Minnesota Transfer at Minneapolis, this principle has been applied not only to carload freight but to the L. C. L. freight, and during the year ending August 31, 1914, there was transferred 145,874 tons (2.91% of the total business) of L. C. L. freight. Of this L. C. L. freight transfer, 85% was through interchange freight and 15% was city freight.

LESS THAN CARLOAD FREIGHT.

Much of the existing congestion and terminal expense is due to the attempt to load outbound L. C. L. freight into schedule cars at the central freight stations. The increase of traffic at these points causes the congestion of the city streets to the delay and expense of the shipper and the inconvenience of the public. The freight stations and team tracks become congested beyond the point of economical operation, and their area or capacity is increased at abnormal and unjustifiable expense to the railroads. Many, if not all, of these disadvantages would be obviated by loading outbound L. C. L. freight at the receiving stations or team tracks directly into trap cars to be taken in these cars to outlying stations or yards located upon less valuable property and equipped especially for the sorting and schedule loading of L. C. L. freight.*

This principle is already being successfully and profitably applied by certain of the larger railroads to portions, at least, of the L. C. L. freight at Chicago, Minneapolis, St. Paul and elsewhere, and it is confidently believed that increased advantages would arise from the co-operation of all the railroads in establishing and operating one or more outlying clearing plants or yards at which outgoing L. C. L.

*William H. Lyford, General Counsel for the Chicago & Eastern Illinois Railroad Company, in an address before the Chicago Engineers' Club—which was introduced in evidence before the Interstate Commerce Commission at a recent hearing in Chicago—stated that E. H. Lee, Vice-President and Chief Engineer of the Chicago & Western Indiana Railroad Company, estimates "the present average cost of transfer freight under present methods at \$2.61 per ton, and the entire cost of adopting the clearing method will be \$1.15 per ton, thus saving \$1.46 per ton, or 56%, which, when applied to the 6,000 tons of transfer freight handled 300 days in the year, amounts to \$2,622,000."

freight can be assembled, interchanged and loaded into schedule cars. The extent to which this system should be applied to all L. C. L. freight should be determined by local conditions and by limitations established by experience. Whether all outgoing L. C. L. freight in a city as large as Chicago should be brought to a single outlying clearing station raises the same question of size limitation above discussed with reference to Union Passenger Stations.

It may be that two or more such clearing stations or yards—properly located to receive and handle freight destined for the different districts or parts of the country into which freight traffic and the existing railroad systems naturally subdivide it in their relations to a particular city—would be more advantageous than a single clearing station of this character.

UNIVERSAL FREIGHT STATIONS.

This Commission is convinced that the co-operative principle should be applied by the establishment in the centers of traffic of at least a certain number of universal freight receiving stations for outbound L. C. L. freight, so that shippers may deliver to these stations for all the railroads or for properly classified groups of railroads. This would greatly reduce the amount of teaming and the street congestion that results from unnecessary teaming.

There is some question as to whether the universal station will increase the cost to the railroads of handling outbound L. C. L. freight. This Commission is not convinced that it would increase the net cost to the railroads, but if it is demonstrated that the cost of handling freight at such universal freight houses is greater than at the central receiving stations of the individual roads, shippers utilizing the universal stations and thus reducing their teaming cost, might be appropriately required to pay a proper charge in addition to the regular Chicago freight rate. This matter can safely be left to be determined by experience and to be regulated by the Interstate Commerce Commission and the State Public Utilities Commission.

THE TWO-LEVEL PLAN.

This Commission believes that serious consideration should be given to the advantages of the two or more level plan in the future development of freight facilities in congested areas. This plan increases the capacity of a given area considerably over 100%, depending upon the nature of the plan used. It permits the utilization of greater space for standing teams and trucks and makes possible the

opening of thoroughfares over property devoted to railroad uses upon the lower level, thus increasing the value of these very facilities for the receipt and delivery of freight.

INTENSIVE DEVELOPMENT.

By receiving inbound freight upon the upper level and delivering inbound freight upon the lower level, the expense of raising or lowering freight upon two levels can be reduced and economies in trucking can be effected by intelligent design.* The logical extension of this plan is undoubtedly the utilization of the space above the terminals so as to reduce the fixed charges against the freight handling facilities.

Exceedingly instructive developments of this general principle are being made in New York City. It is estimated that the New York Central and its partner, the New York, New Haven & Hartford, have invested \$9,600,000 in commercial buildings on portions of the terminal area in New York City. The New Haven is merely a tenant of the railroad facilities, but is a partner in the commercial development of the terminal area. Lessees of building sites also have assisted in financing construction to the extent of \$1,000,000, and the

*Mr. E. H. Lee, Vice President and Chief Engineer of the Chicago & Western Indiana Railroad, in a paper presented to the American Railway Engineering Association, in discussing the possibilities of two level freight houses, sums up the advantages and disadvantages as follows:

1. Diminishes the investment in land;
2. Adds to the cost of the improvement;
3. Is especially feasible on side hill locations, or where grades are separated;
4. Saves the space sometimes used for inclines between streets and driveways;
5. Improves the street system, making the freight houses more accessible;
6. Decreases the operating cost by shortening the trucking distance and by utilizing the operating forces;
7. Adds to the operating cost the item of elevating or dropping freight.

In discussing these items, Mr. Lee uses a basis of 2,000 square feet per car for single level development, and 1,350 square feet for two level development, and states that it may be possible to make a double level development with a capacity of 1,000 square feet per car. Studies made by this Commission indicate that this area can be considerably reduced below 1,000 square feet.

Mr. Lee shows, however, under his assumptions that the cost of a single level plan at \$1.00 per square foot and a double level plan at \$4.00 per square foot—the land value taken at \$10.00 per square foot—is a saving of 17% in the cost of improvements; land value at \$15.00 per square foot a saving of 20%, and land value at \$20.00 per square foot, a saving of 26%.

Mr. Lee discusses the possibility of reducing the trucking system by the more compact arrangement possible in the two level plan and gives his conclusions as follows: "Double decking, by decreasing both the investment per car and the operating expense—as it also adapts itself to grade separation—is a logical method of improvement. Its adoption for city L. C. L. freight terminals may be expected to become more general as conditions demand."

application of this principle is to be extended. The figures given do not include the head house, which constitutes what is usually regarded as the railroad station. The Boston News Bureau in a recent analysis of the financial operations of the New York Central during the past ten years says:

"It is necessary to preserve the sharp distinction between expenditures in this terminal area for railroad facilities and for commercial or real estate development. The latter not only do not increase the financial burden on the railroad, but will eventually lift from it the larger part, if not all, the ground rent for what is probably the most expensive large terminal site in the world. Leases of these buildings or of space for the erection of buildings are made to provide that tenants not only pay interest on the value of the land, but in the course of years amortize the cost of the buildings themselves. Rent of the ground covered by the station and office buildings, it is true, will for the present fall upon the railroad, though the 'head house' is so constructed that offices may be reared above it to a height of 22 stories, while the six-story office buildings can be similarly built upward, when the demand for floor space in this vicinity justifies such a step."

The adoption of such principles as the foregoing would reduce the amount of expensive property necessary to be acquired and held by the railroads for terminal purposes, and would not only justify but provide an incentive for the industrial development of the terminal properties retained by the railroads in the various business, manufacturing or industrial districts.

It is for the interest of the public—as well as of the railroads—that terminal properties now only superficially utilized for tracks or freight houses should be developed over these facilities for warehouse, manufacturing or other purposes, so as to make this very valuable property produce a proper revenue and afford the merchants and manufacturers the great advantages of rentable space in buildings directly connected with terminal facilities. The Cupples Warehouse in St. Louis is an interesting example of such development.

ELECTRIFICATION.

A railroad company not only finds it unnecessary to conduct both its freight and its passenger business at the same terminal location or over the same terminal tracks, but it usually discovers operating advantages in the separation of freight and passenger terminals. This is of great practical importance in preparing for the electrification of railway terminals. Both the railroads and the public are looking forward to the substitution of some less objectionable motive power

for the present steam locomotive, especially in the operation of passenger terminals and terminal tracks.

The Committee on Smoke Abatement and Electrification of the Chicago Association of Commerce has—for more than four years—been making a detailed study of this question, and its report is soon expected. Without anticipating the findings of this report, it seems safe to assume from the evidence generally available, that electricity—applied either by means of the overhead trolley or by means of the third rail direct contact system—is the only motive power other than steam that has demonstrated its practicability for such extensive application as would be necessary at Chicago.

It is apparent that the cost of electrification will be greatly reduced by simplifying and unifying the passenger tracks entering the city; by removing the present tangle of cross lines; by establishment of direct instead of roundabout routes within the city; and by the joint use of tracks available for and adequate for more railway companies than those which now utilize these particular tracks. The adoption of outlying co-operative freight stations would greatly simplify the electrification of the more central freight terminals and tracks.

THE CHICAGO TERMINAL SITUATION.

The very geographic and topographic conditions which have caused the development of Chicago as a railroad and commercial center has conduced to complicate its railroad terminal situation.

Located in a level country, on the western shore of Lake Michigan, there have been no physical obstacles to the location of railroad approaches except directly from the East. The railroad lines of the West and Northwest have naturally converged at the southern end of Lake Michigan as the most convenient point for the interchange of traffic between these lines and the lines serving the East.

Here at Chicago most of the great railroad systems of the country converge. Each of these roads has sought a separate entrance to the City and has endeavored to secure terminal facilities as extensive and as advantageously located from a competitive point of view as those possessed by the roads that have preceded it.

There being no physical obstacle to overcome—on account of the uniform level of the City—each road has been actuated solely by motives of expediency in locating its terminals. It has been the line of least resistance—financially considered—which has chiefly determined the location in most cases. Inasmuch as most of the roads were located during the era when grade crossings were tolerated by

the public and advocated by the railroads because of the immediate economy, the result has been a perfect maze of terminal approaches crossing each other and leading into the very heart of the city.

RAILROADS IN THE CITY PLAN.

The physical development of a city is largely affected by the arrangement of the railroad lines and the distribution of the railroad properties. These lines and properties, laid down through open country when the city was young and small in area, have had a strong influence in determining the direction and character of the growth of the city. The establishment of railroads without proper provision for the extension of streets and highways across their rights-of-way and yards, has a retarding effect on the spread of the city into outer areas. This is especially true of Chicago in certain districts and has tended to produce its scattered and uneven development.

These railroad locations have determined—to a large extent—the use to which adjacent property is put. They attract industries along the right-of-way, and the more numerous they are the more scattered and spread out these industries become. This industrial development has, in turn, influenced the residential development in its neighborhood and between the different lines of railroad.

The multiplicity of railroad entrances into Chicago has led to the cutting up of the City into many comparatively small areas given over partly to industry and partly to residence.

The multiplicity of lines has led to numerous large yard and terminal areas which form barriers to symmetrical development. For example, in the large yards of the Burlington and North Western Railroads, there is a total absence of north and south streets for the half mile between Western Avenue and Robey Street, and in the next half mile east there are only four north and south streets and these pass under the yards by tunnel.

As the railroad lines converge towards the center of the City and towards the downtown terminals, the greater becomes the intensity and importance of the effect of the conditions discussed above. These lines—coming closer together—consequently have their yards and terminals closer together until, in the center of the City, we find the business heart completely surrounded by railroad yards and terminals.*

*F. A. Delano, in "Political Economy," Vol. XXI, No. 9, November, 1913, writes:

"In spite of the apparent chaos, a study of the question develops the fact that, on the whole, the arrangement is more orderly than was at first

The central business district, represented by the area south of the main Chicago River, north of Twelfth Street and between the south branch of the River and Lake Michigan, is substantially one mile square. It is not only hemmed in on all sides by railway freight and passenger terminals, but is penetrated for about half of this distance by terminal approaches from the south.

Only the area north of Van Buren Street and about a quarter of a mile square is really free from railway occupation and within this area are crowded the active centers of the financial, retail and wholesale business; the public buildings of the National Government, the City and the County; the State and Federal Courts; the principal hotels and the great office buildings. Within this narrow limit the street and elevated railways focus the greater portion of their traffic.

Although this district is now less than half built up with modern commercial buildings, the conditions of traffic on the streets constitutes a serious obstacle to business and to the further development of the commerce of the city.

The railway terminal holdings in this district are largely responsible for this congestion; first, because they prevent expansion, and, second, because they concentrate the greater portion of their own traffic within these narrow limits.

In their discussion of the terminal question, the officers of the Chicago Plan Commission showed that the streets serving as approach to this business district were totally inadequate. While there are nine north and south streets entering the central district from the north, the approaches from the south are limited to four, one of which—Michigan Boulevard—is not open to heavy traffic and another—Clark Street—has been narrowed by encroachments and its use considerably restricted by the grades due to the viaducts over railroad tracks.

North of Van Buren Street there are eight east and west streets running continuously through the business district. South of Van Buren Street—and from there to Twelfth Street—there is really only

suspected, and that the twenty-three railway lines approaching Chicago group themselves, as they approach the heart of the City, into seven well-defined arteries. Between these main railway arteries is a network of streets, some of them carrying an enormous volume of traffic which converge into a constricted business district.

"That the main features of this anatomy are intimately inter-related, no one can deny; and, while the main railway and street arteries cannot be greatly altered, there are undoubtedly opportunities to modify and supplement them.

"Diagrammatically, the relations of the North and South Sides of Chicago might be likened to the two halves of an hour glass joined by the central and constricted neck; on one side might be shown the neck, on the other, adjacent but detached, the West Side, the greatest both in area and in population of the city's three sections."

one east and west street that is continuous—Harrison Street. All the other east and west streets in this section are closed or obstructed either by railroad tracks and freight houses or by a high wall as on Polk and Taylor Streets at Fifth Avenue.

The street conditions in the area just to the south of the central district—i. e., south of Twelfth Street—are equally bad. From Twelfth Street to Twenty-second Street there is only one continuous east and west street and only four north and south streets, one of which is obstructed.

Not only is the River an obstacle to the free development of the business district toward the north and west, but the location of important railway terminals along the River has increased this obstacle, especially towards the west. While some east and west thoroughfares are extended through these terminals, the superficial character of the occupation of these areas by railroad tracks and low freight houses necessarily breaks the continuity of commercial development.

By unduly confining the areas within which business is conducted and adequate transportation facilities afforded, the railroads are injuring themselves as well as the City. The railroads of Chicago do furnish extensive facilities throughout the entire terminal area, but these facilities are not now properly correlated. With notable exceptions they are operated so as to increase rather than diminish the central congestion.*

It is realized that in bringing about better conditions—both in the central sections of the City and in the outlying districts and also in the areas which will in the future be incorporated into the City—other means will have to be found which will be simpler and more practicable than the complete rearrangement and unification of the railroad entrances.

*Mr. F. A. Delano, in "Political Economy," Vol. XXI, No. 9, November, 1913, writes:

"Obviously, one of the major problems of the Chicago Plan was to enlarge the passageway between the North and South Sides through the business district, and at the same time bring the West Side into closer and more vital connection. The way the Plan proposed to accomplish this has been, perhaps, sufficiently illustrated, but its five principles may be here mentioned for convenience:

- 1—Enlarging the business area by pushing the railway stations south to Twelfth Street;
- 2—Straightening the river so as to open at least three new north and south streets;
- 3—Widening Twelfth Street and creating a wide Congress Street, to bring the West Side into closer and more intimate connection with the city's heart;
- 4—Widening Halsted Street—the principal west side street—and making it one side of the city's inner quadrangle;
- 5—Establishing the city's future civic center on the West Side.

It is exceedingly desirable that outlying centers of business should be built up independently of the central business district; but it is inevitable that there shall be one principal business center in every city. There is a sound and compelling reason for the fact that in every successful City there is one principal center of trade and commerce. Any attempt to break up and scatter the business which naturally should be brought together within this district, and which cannot be so economically or efficiently conducted if it is not concentrated at one point, can only result in impairing the commercial prosperity of the City. On the other hand, it is directly contrary to the public interests and to the railroad interests to concentrate in the central business district any business or traffic that can be as well or better conducted in other sections of the City.

It is the part of wisdom—both for the city itself and for the railroads whose interests are identified with the interests of the city—to provide for the normal and healthful development, not only of the principal business center, but also of the larger terminal area of each metropolitan community.

PRESENT METHODS OF HANDLING MERCHANDISE FREIGHT.

The central railroad terminal district of Chicago may be taken to include all that territory east of Desplaines Street and between Eighteenth Street and Chicago Avenue—an area of less than four miles square. In this territory there are located fifty-seven freight houses for inbound and outbound merchandise (L. C. L.) freight, through which is handled daily 84% of the total merchandise L. C. L. freight of the city.*

From information furnished by the railroads, it appears that about 10,000 tons of L. C. L. freight originating in Chicago is shipped out each day. Of this freight 3,000 tons are received in trap cars from industry sidings and 7,000 tons are received at the outbound houses by team, tunnel and lighter. The greater portion of the trap car freight is brought from the industry sidings into the congested districts and is there sorted and loaded by the railroads into schedule cars.

In addition to the 10,000 tons of L. C. L. outbound freight which originates in the City, the railroads of Chicago daily bring into their inbound freight houses approximately 10,000 tons of L. C. L. freight, of which 5,000 tons is transferred to the outbound houses of other

*See Exhibit "I" for list of principal freight and passenger stations in Chicago.

railroads. Of this transfer, 45 per cent is made by team, to the added congestion of the streets in the central terminal district.*

In the very center of the City—in the narrow district lying between Harrison Street and Sixteenth Street and between State Street and the Chicago River—are located the freight terminals of twelve railroads, at which are handled daily 4,700 tons of inbound L. C. L. freight, of which 1,350 tons are transferred to other railroads.**

These same stations handle daily about 4,800 tons of outbound L. C. L. freight, of which 2,200 tons are received from other roads.

The average daily number of freight cars—both inbound and outbound—is 1,425, while the car standing capacity of the inbound and outbound houses at any one time is 1,270 cars.

If all the transfer and trap car freight were eliminated from these terminals, it would mean—on a basis of present business—a reduction of nearly 40 per cent in the tonnage of freight necessarily handled in these terminals, and a still further reduction in the required car standing capacity, because this transfer and trap car business requires double the car standing capacity that is required for the straight city freight—qualified, however, to the relatively small extent to which it is possible to use for outbound loading the car in which the transfer freight is received.

The reduction of 40 per cent in freight tonnage mentioned above would provide for the natural growth of business for a considerable period of years, and if accompanied by the proper co-operative use of terminals, would permit the sale of much valuable property now superficially used for terminal purposes.

PRESENT SUPERFICIAL USE OF TERMINAL PROPERTIES.

The need for more intensive development of railroad freight terminal property has become quite apparent to those who have given serious consideration to the subject. Railroad officials have been

*William H. Lyford, in testimony presented to the Interstate Commerce Commission at a recent hearing in Chicago, gives the following facts relative to the average daily L. C. L. business in Chicago:

"The Chicago railroads daily bring into this City 10,000 tons of L. C. L. freight and take out 16,000 tons. Of the inbound freight only 40 per cent is delivered to the consignees by the inbound road. The remaining 60 per cent, or 6,000 tons, is taken out of the inbound cars at the terminal station of the road on which it arrives, and is transferred to the terminal stations of other roads; and 24.8 per cent of this transfer is made by teams, 68.6 per cent by trap cars and 6.6 per cent by tunnel."

**A. T. & S. Fe.
Rock Island
B. & O.

Grand Trunk
C. & E. I.
Lake Shore

C. & E.
Nickle Plate
C. G. W.

Pere Marquette
Monon
Wabash

brought to realize the value of this intensive development when they are confronted with the necessity of securing additional real estate in the congested business districts of the City where land values are high.

It should be equally apparent that the limited use to which valuable real estate is put is just as much an unnecessary expense as would be an expenditure for additional unnecessary property. Exactly to the extent that real estate of this character is unnecessarily held out of commercial use by the railroad, is the potential freight producing capacity of the areas adjacent to their terminals reduced, and this injurious effect is increased to the extent that the superficial and unattractive improvement of their own property deters the effective development of adjacent property.

CHICAGO RIVER STRAIGHTENING.

The straightening of the Chicago River is—in many respects—the most important single step that can be taken for the improvement of the central terminal area. The proposal—for which a certain amount of co-operation has already been assured—is for a direct channel between Polk Street and Dodge Street, which would permit the extension of Franklin Street and streets east of Franklin as north and south thoroughfares.

Practically all of the property involved is already owned by the railroads. The present curve or bend in the River channel south of Twelfth Street makes it exceedingly difficult to properly develop the land lying between Dodge Street and the River. By straightening the River this land and the land lying between Clark Street and the present river channel would be capable of harmonious development along normal rectangular lines.

On account of its more direct course, the straightened river would occupy 194,000 square feet less than is now occupied by the present river channel, thus creating an addition to the available areas in this district of approximately $4\frac{1}{2}$ acres. The value of this additional acreage would probably be more than sufficient to pay for the actual construction work of straightening the river, to say nothing of the increase of values due to making property which now lies west of the River available for the central business district.

The present area lying between Clark Street and the east bank of the Chicago River amounts to about 870,000 square feet, but it is narrowed down at its center to a little more than 100 feet in width. With the river straightened, there would be available between Clark Street and the River a tract of land over 1,000 feet wide and over

2,600 feet long, containing 2,600,000 square feet, which is an area considerably in excess of the combined areas occupied for freight facilities today by all of the railroads north of Sixteenth Street or between the river and State Street.

With proper co-operation between the railroads of this district, it should be possible to develop in this territory between Clark Street and the straightened river, amply sufficient facilities to provide for the present needs and probable future requirements of all the railroads in this district, thereby releasing for commercial use all—or certainly the greater portion—of the property now held by railroads between Clark Street and State Street.

It would then be possible, also, to open through this terminal territory all—or practically all—of the north and south streets without interfering with the use of the property for railroad purposes.

The adjustment of the plane of these streets to meet the plane of the viaducts or bridges across the river would place the streets sufficiently high to permit of railroad operation beneath them, without placing the railroad tracks at too low an elevation.

In the tentative plans which are submitted herewith, alternative propositions have been developed showing various possibilities of readjusting the freight terminals in this district on the basis of the two level plan for freight handling with warehouse operation.

In all these plans the effort has been made to secure the elimination of present railroad grade crossings and the opening up of streets for uninterrupted traffic without interference with railroad development.

SUMMARY OF GENERAL RECOMMENDATIONS.

In the interests of the City, the railroads, the shippers and the general public, the railroad terminals now existing in the congested area bounded by the Lake on the east, Chicago Avenue on the north, Desplains Street on the west and Sixteenth Street on the south, should be readjusted and simplified by combination and co-operation.

The through passenger service of all the railroads now using terminals in that portion of the congested area above described, which lies east of the south branch of the Chicago River, should be combined in one—or two—Union Passenger Stations, with the exception of such of these roads as can properly be taken into the new Canal Street Union Station west of the River.

Advantage should be taken of the substantial opportunities which now exist for the practical application of the through routing

principle to Chicago suburban service. These opportunities would be increased by certain changes which are easily practicable.

The present extensive and superficially spread out competitive freight terminals within the congested area—bounded as above described—should be regrouped and simplified. The Commission is gratified to be able to report that it has found—on the part of a number of influential railroad officials—a distinctly favorable disposition toward this suggestion and a willingness to assist in the working out of practicable plans to carry it into effect.

The Commission has been preparing a number of tentative alternative plans to this end, to be used as a basis of discussion and study. It presents a number of such plans herewith, with accompanying explanations of their character and effect.

The south branch of the Chicago River should be straightened so that La Salle Street, Fifth Avenue and Franklin Street can be extended through as continuous north and south thoroughfares, and so that railroad properties now cut off by the river and only superficially used, can be made available for intensive development.

Provision for river-straightening was made in the Canal Street Union Station ordinance, and the Commission has secured assent to substantially similar provisions in the Baltimore & Ohio Chicago Terminal Railroad ordinance, passed February 19, 1915, and in the pending ordinances relating to the Chicago & Western Indiana Railroad. Other railroads—whose interests would be affected—have also indicated to the Commission their willingness to co-operate in some practicable plan of river straightening.

The Commission has prepared certain tentative plans showing the river straightened and how the property then thrown east of the south branch of the River can be utilized to the joint advantage of the railroads and the public.

No carload freight should be handled within the congested area—bounded as above—except that which is intended for consumption or use within the district. All other carload freight should be interchanged, transferred or delivered by co-operative methods, agencies and facilities outside of this district, such as those already adopted at Clearing by twelve of the Chicago railroads, operating fifteen trunk lines.

The Clearing Yard is located between Seventy-third and Central Park Avenues, and between Sixty-seventh and Seventy-third Streets, and is connected with both the inner and the outer Belt Railway Systems at the nearest point of approach of these systems to each other.

Both eastern and western railways co-operate with each other at Clearing; but at present only carload freight is handled there.

Here—or at similar co-operative yards—should be interchanged all carload freight which it is not essentially necessary to handle within the congested area.

Less than carload (L. C. L.) freight should be interchanged or transferred—as far as practicable—on general principles substantially similar to those applied at Clearing to the carload freight.

It is apparent that—to the extent that this interchange or transfer can be accomplished at one or more points outside of the congested area of the city—a distinct public benefit will be conferred, and the railroads themselves will probably be financially benefited.

Outbound L. C. L. freight should not—as a general rule—be sorted or loaded to destination at the freight terminals within the congested area. No outbound L. C. L. freight which had been loaded into trap cars on private sidings should be brought into this congested area, but should be taken directly from the point of origin to an outlying station or yard, where it will be transferred as may be necessary.

Outbound L. C. L. freight brought by teams or trucks to freight stations or team tracks within the congested area should be unloaded as directly as practicable from the vehicles into trap cars and should be taken in these trap cars directly to outlying clearing stations or yards, there to be transferred as may be necessary. What—if any—exceptions should be made with respect to specially expedited freight depends upon operating conditions and developments.

Outlying L. C. L. clearing stations or yards should be established and operated by roads which do not already have them; and the co-operative or union principle should be applied and extended as rapidly as experience justifies and opportunity permits.

This Commission is not now prepared to say that the larger railroad systems may not find it advantageous to operate individual clearing station yards of their own or that one joint station or clearing yard may be found as efficient as two or more.

It may be that there should be three union co-operative clearing stations or yards, located in different sections of the outlying territory of Chicago and devoted to freight destined west and northwest, south and southwest, east and southeast, the sections into which the entire railroad system—when considered in relation to Chicago—naturally subdivides the country.

Universal freight stations should be established at appropriate points in the central terminal area, in sufficient number to afford

convenient opportunity for the shippers in the respective sections of this area to deliver at a single station L. C. L. freight destined to different roads, or at least to any of the roads within one of the above mentioned groups.

The freight received at such universal stations should be taken to the outlying clearing station or yard of all the roads, or of the roads of one of these groups—depending on the system—and then this freight should be sorted, transferred and loaded to destination.

In the event—but only in the event—that this service is found to involve extra expense to the railroads over the cost to them of handling freight teamed to their respective individual receiving stations, the shipper utilizing these universal stations should pay an appropriate charge for the privilege which enables him to reduce the cost and the delays of teaming.

It is not suggested at this time that all the railroads should immediately adopt the universal freight station system, or that each railroad should convert all of its existing freight stations into universal stations. But it is believed that a sufficient beginning should be made on the universal freight station plan to give that plan a fair and adequate trial, and under circumstances which will permit of its extension to the extent that this is justified by experience.

The Commission is confident that experience will demonstrate the practical value of the Universal Freight House System, both to the railroad and the public.

In the plans prepared by this Commission, as tentative studies of the terminal situation, locations have been indicated for new universal freight houses by way of suggesting where such houses be located. In actually working out the problems, other locations may be found more suitable or more available. The Commission has been gratified to find that the Universal freight house principle is being given friendly consideration by Chicago railroad men, and it confidently hopes for the inauguration of this principle in the near future.

None of the plans herewith submitted is intended to represent the matured judgment of the Chicago Railway Terminal Commission. The sole purpose of all that is here presented is to report progress toward the solution of the railway terminal problem and to indicate some of the practical steps that may lead further in this direction.

Acknowledgment is due to the assistance rendered the Commission in the study of the terminal situation and the preparation of

this report by Edward J. Noonan, Secretary and Principal Engineer,
and his staff, Donald B. Rush, Frank E. Collins, and Ralph J. Hinkle.

Respectfully submitted,

CHICAGO RAILWAY TERMINAL COMMISSION

Wm. L. Fisher

Dean J. Arnold

E. A. Bennett

Samuel J. McGarr

COMMISSIONER OF PUBLIC WORKS.

John H. Beatty

CORPORATION COUNSEL.

Geis Kriger

CHAIRMAN COMMITTEE ON
RAILWAY TERMINALS.

John F. Harlowe Chairman.

Chicago, March 24, 1915.

EXHIBIT I
PRESENT TERMINAL FACILITIES
IN THE
CITY OF CHICAGO

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PRESENT TERMINAL FACILITIES
IN THE
CITY OF CHICAGO

The railway approaches to the City of Chicago are along seven different routes, as follows:

- 1—The Illinois Central right-of-way along the Lake Front;
- 2—The Lake Shore-Rock Island right-of-way, parallel to Clark Street;
- 3—The Pennsylvania-Western Indiana right-of-way between Stewart Avenue and Canal Street;
- 4—The Illinois Central-Santa Fe-Alton right-of-way parallel to Archer Avenue;
- 5—The Burlington-Northwestern-Baltimore & Ohio right-of-way parallel to Sixteenth Street;
- 6—The St. Paul-Pan Handle-Northwestern right-of-way parallel to Kinzie Street;
- 7—The Northwestern right-of-way parallel to Milwaukee Avenue.

Of these seven, four are east and south of the River, while three are north and west of the River.

There are—at the present time—six railway passenger terminals in the City, namely:

Northwestern Station,
Union Station,
La Salle Street Station,
Grand Central Station,
Dearborn Station,
Central Station.

These stations accomodate railroads as follows:

NORTHWESTERN:.....	1 road:	Chicago & Northwestern;
UNION:.....	5 roads:	Chicago & Alton, Chicago, Burlington & Quincy, Chicago, Milwaukee & St. Paul, Pittsburgh, Cincinnati, Chicago & St. Louis, Pittsburgh, Ft. Wayne & Chicago.
LA SALLE:.....	4 roads:	Chicago, Indiana & Southern, Chicago, Rock Island & Pacific, Lake Shore & Michigan Southern, New York, Chicago & St. Louis.
GRAND CENTRAL:....	5 roads:	Baltimore & Ohio, Baltimore & Ohio Chicago Ter- minal, Chicago Great Western, Pere Marquette, Minneapolis, St. Paul & Sault Ste. Marie.
DEARBORN:.....	8 roads:	Atchison, Topeka & Santa Fe, Chesapeake & Ohio, Chicago & Eastern Illinois, Chicago & Erie, Chicago & Western Indiana, Chicago, Indianapolis & Louisville, Grand Trunk, Wabash.
CENTRAL:.....	3 roads:	Cleveland, Cincinnati, Chicago & St. Louis, Michigan Central, Illinois Central.
TOTAL:.....	26 roads.	

The Northwestern Station, occupying the entire block between Canal and Clinton Streets, fronting on Madison Street, is a new structure, costing \$25,000,000, and should meet the requirements of through traffic for many years. There are 16 stub tracks and 6 main line elevated approach tracks.

The Union Station, fronting west on Canal Street, between Monroe and Adams Streets, opened April 4, 1881, was designed as a through station, but used as a double stub station. The traffic of its roads has entire outgrown the capacity of this station.

The La Salle Street Station, fronting north on Van Buren Street, occupies the entire block between Sherman and La Salle Streets, and

was opened July 1, 1903. There are eleven stub tracks and four approach tracks.

Grand Central Station, fronting north on Harrison Street, opened December 10, 1890, having eight stub tracks and two approach tracks.

Dearborn Station, fronting north on Polk Street, occupies the entire block between Federal Street and Plymouth Court, opened May 8, 1885, consists of ten stub tracks and four approach tracks. This is the most congested of all stations.

Central Station, fronting on Grant Park, was opened April 17, 1893. The train shed has six tracks, with two approach tracks at the south end, a connection with the St. Charles Air Line and two switching leads at the north end. Under agreement with the South Park Commissioners, this station is to be torn down and the site vacated for park purposes.

It will thus be seen that of the five older passenger stations now in use, the Union Station, Central and Dearborn Stations must soon be replaced. The La Salle Street Station will undoubtedly require enlarging or replacing within the next ten years. The Grand Central Station is badly located and of small capacity—though well arranged.

The Union Station Company—under the terms of the ordinance passed March 23rd, 1914—is about ready to begin work on a much larger passenger terminal located on Canal Street upon substantially the same site as to train shed and track that it now occupies.

The Illinois Central—owning the Central Station—has under consideration a greatly enlarged passenger terminal located at Twelfth Street and the Lake Front, of sufficient capacity to take care of all the railroads on the south side of the City now using stations east of the Chicago River.

The freight houses and team tracks of the A. T. & S. F. Ry., C. & E. I. R. R., C. & E. R. R., C. I. & L. Ry., G. T. W., and Wabash Railroad, are located between Clark Street and State Street, and extend from Fifteenth Street to Taylor Street; the approach to all of these freight houses being from the south by way of the tracks of the C. & W. I. R. R., except in the case of the Santa Fe, which has an independent approach parallel to the western line of the Illinois Central.

The freight house and team tracks of the L. S. & M. S., Nickle Plate, and C. R. I. & P. are located between Clark Street and Fifth Avenue, and extend from Twelfth Street to Polk Street, the approach being by the joint L. S. & M. S., and C. R. I. & P. tracks.

The freight houses of the B. & O. Railroad, C. G. W. R. R., and P. M. R. R., are located between Fifth Avenue and the South Branch

of the Chicago River, and extend from Taylor Street to Harrison Street, the approach being by the tracks of the B. & O. R. R., which extends parallel to Sixteenth Street and crosses the River just south of Taylor Street; the team tracks of these railroads being on B. & O. land west of the River and south of Twelfth Street.

The freight houses and team tracks of the Burlington Railroad are located west of the River, between Canal Street and Stewart Avenue, and extend from Twelfth Street to Harrison Street. The Burlington also has freight houses, together with the St. Paul and North-Western, in the vicinity of Sixteenth Street, extending from Union Street to Canal Street.

The Fort Wayne and Alton freight facilities are located between the River and Canal Street and extend from Harrison Street to Madison Street. Under the Union Station ordinance the freight facilities of the Burlington, Fort Wayne and Alton will be rearranged in the territory between Canal Street and the River, so that they will not extend further north than Polk Street.

The C. M. & St. P. and the Pan Handle have their freight facilities between Fulton Street and Kinzie Street, extending from Desplaines Street to the north branch of the Chicago River.

The C. & N. W. R. R. has freight facilities adjacent to the west bank of the north branch of the Chicago River in the vicinity of Kinzie Street and also along the north side of the main channel of the Chicago River, east of Dearborn Street.

The freight houses and team tracks of the Illinois Central Railroad are located on the lake shore north of Randolph Street and extend to the Chicago River.

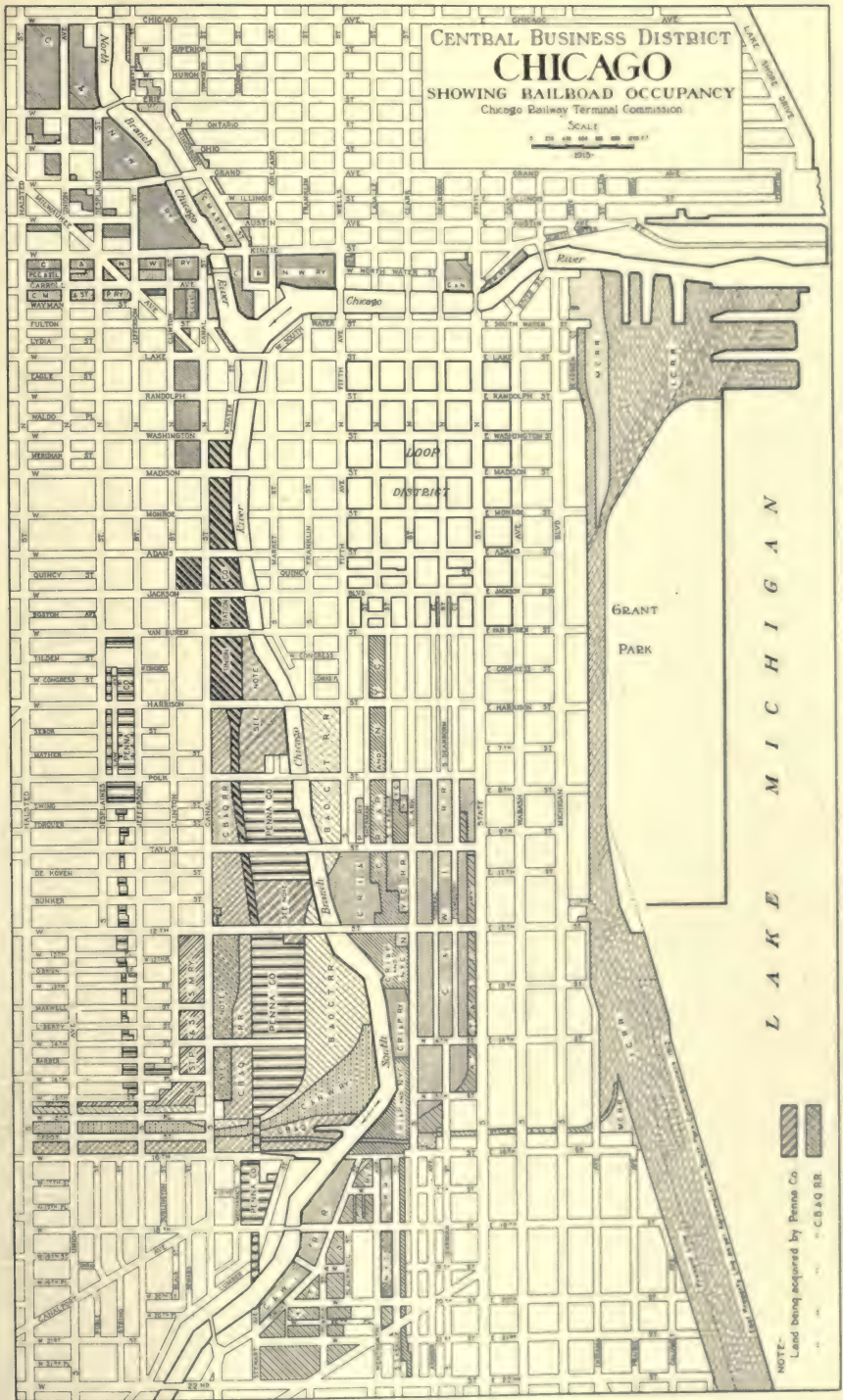




EXHIBIT No. II
REARRANGEMENT
OF
PASSENGER TERMINALS

EXHIBIT No. II

REARRANGEMENT OF PASSENGER TERMINALS.

The Chicago & Northwestern Railway is provided with a new station at Canal and Madison Streets, which will be sufficient to take care of its needs for some time to come and—if its present suburban service could be eliminated therefrom—it would have sufficient facilities to provide for its through passenger traffic for many years.

The passage of the Union Station ordinance and its acceptance by the railroads provides terminal accommodations for the roads now using the present Union Station on Canal Street and sufficient to take care of other roads entering the City from the west, which should logically use this station.

With the exception of the roads in this group which enter from the west—and which roads might logically be taken into the Union Station—all of these roads enter the same section of the city and it would be practicable for these roads to use one common entrance route.

The South Park Commissioners—acting under the general laws of the State of Illinois and under the special provisions of an Act approved May 4, 1903, May 2, 1907, May 25, 1911, and June 11, 1912, respectively—in an agreement with the Illinois Central Railroad Company, March 30, 1912, and a supplemental agreement dated June 26, 1912, fixed the eastern boundary line of the Illinois Central Railroad between Grant Park and Fifty-first Street, and by the same terms the Illinois Central Railroad relinquished to the South Park Board its riparian rights along the shore of Lake Michigan between the boundaries noted above.

These agreements have been confirmed by the Courts, but they cannot become practically effective without the passage by the City Council of ordinances covering certain provisions in the agreements referred to, and the Secretary of War has indicated that the passage of appropriate ordinances by the City providing, among other things, for a harbor district within the limits covered by these agreements, would be considered a condition precedent to the approval by the War Department of the plans of the South Park Commissioners.

Should the City, the South Park Commissioners and the Illinois Central Railroad come to an agreement under which the City Council

would pass ordinances protecting the City and making possible the carrying out of the agreements referred to, the Illinois Central Railroad would come into possession of lands which—in addition to their present holdings—would give it an unusual site for passenger terminals.

This site, extending southward from Twelfth Street over 700 feet in width for a distance of 2,000 feet, with an extension 600 feet in width nearly to Thirty-first Street—a distance of about two miles—with an approach thereto having a capacity of 20 main tracks as far as Fifty-first Street and 15 tracks beyond, would make an available location for the grouping of all or most of the through trains of the South Side roads in one passenger terminal, and the land would be sufficient to take care of these railroads for an indefinite period in the future.

The site for the station at the south end of Grant Park affords splendid opportunity for architectural effect, and the broad right-of-way southward for several miles along the shore of the lake, with no street crossings at grade, makes possible an avenue of approach to the City for the passenger trains of the railways from the east, the south and the southwest remarkable in capacity, attractiveness of surroundings and advantage of location.

As the Illinois Central is required by its charter to pay to the State of Illinois seven per cent of its gross revenue, which is over 20 per cent of its net earnings from operation, all rentals for terminals received by it will accrue to the advantage of the citizens of Illinois, including Chicago. As the land set aside to the Illinois Central can be used only for railroad purposes, it is to the interest of the City of Chicago not only to favor but to encourage the use of this property to the fullest extent compatible with other considerations of public policy.

The low cost of this property to the Illinois Central Railroad should make it possible for this Company to provide facilities for other railroads upon terms attractive to them.

It should be possible—in framing ordinances—to provide some means of arbitrating the question of reasonableness of charge made by the Illinois Central to tenant companies—in case the railroads affected are not able to reach an amicable agreement.

On the occasion of his recent appearance before the City Council Committee on Harbors, Wharves and Bridges, G. H. Markham, President of the Illinois Central Railroad, stated in specific language his willingness to accede to such an arrangement with respect to harbor connections.

The plans for the new station at Twelfth Street should provide only for through trains. There is ample room at the Illinois Central site to provide for 30 to 40 tracks and still have place for accommodating suburban tracks along and outside the station.

The accompanying diagram, marked Plate No. 4, shows tentatively the routing of all of the passenger trains of the railroads now using the Grand Central, La Salle and Dearborn Stations in this terminal at Twelfth Street and the Lake Front.

It also shows the simplification of the approaches to passenger terminals that would be effected by this plan.

Plate No. 5 is a diagram showing tentatively the routes that would be adopted if the roads which enter from the west and now have their terminals in the Grand Central and Dearborn Stations were taken into the Union Station at Canal and Madison Streets instead of a station at Twelfth Street and the Lake Front.

Suburban Service.

The proper method for arranging for the accommodation of the suburban service of these railroads has not been worked out, but with the co-operation of the railroads it should be possible to work out a plan that would be satisfactory to them and result in greater accommodation to the public.

Such a plan might properly contemplate an underground railroad connecting the terminals which would permit of a direct interchange of passenger equipment between these terminals and a routing of suburban trains in a manner that would eliminate the existing congestion caused by the present method of operating the terminal services.

The Commission, however, has not proceeded sufficiently in its consideration of this subject to be able to put forward a definite plan for suburban through routing.

RAILROAD ROUTE AND TERMINAL MAP

CHICAGO

AND VICINITY

OFFICE OF CHICAGO RAILWAY TERMINAL COMMISSION FEB 1915

SCALE
0 1 2 3 MILES

TENTATIVE ARRANGEMENT WITH THREE TERMINAL PASSENGER STATIONS

Stations retained
to be removed

To accompany report of Chicago Railway Terminal Commission
1915





RAILROAD ROUTE AND TERMINAL MAP CHICAGO AND VICINITY

OFFICE OF CHICAGO RAILWAY TERMINAL COMMISSION FEB. 1915.

SCALE
0 1 2 3 MILES

TENTATIVE ARRANGEMENT WITH THREE TERMINAL PASSENGER STATIONS ALTERNATIVE PLAN

Stations retained
to be removed

To accompany report of Chicago Railway Terminal Commission
1915

ALTERNATIVE PLAN FOR TWO STATIONS ON THE SOUTH SIDE.

It may develop—after further consideration of the question of rearrangement of passenger terminals for railroads using the stations east of the south branch of the Chicago River—that it will, in the interests of the public and the railroads, be found desirable to group these railroads into two stations rather than one station.

In this event it would be possible—with the Chicago River straightened—to develop a passenger terminal on the site now occupied by the Grand Central Station, sufficient to take care of the passenger traffic of a number of railroads. This development would not interfere with the southward growth of the City and a plan could be worked out that would permit of satisfactory crossing for all of the east and west streets intersected.

If this location were adopted, however, it would be desirable to use the existing rights of way of the Rock Island-Lake Shore or Western Indiana as a route of entrance. Such an entrance route would permit of a more economic and satisfactory layout and would very materially reduce the passenger train mileage of the railroads which now use the B. & O. C. T. tracks as an entrance to this station.

A practical arrangement of routes contemplating these two stations on the South Side is shown in Plate No. 6.



EXHIBIT No. III
TENTATIVE PLANS FOR THE
REARRANGEMENT
OF
FREIGHT TERMINALS

EXHIBIT No. III

**TENTATIVE PLANS FOR THE
REARRANGEMENT
OF
FREIGHT TERMINALS**

In the study of the possibilities of rearrangement of freight terminal facilities in the congested district, consideration has first been given to the territory between the south branch of the Chicago River and State Street and north of Eighteenth Street, because the terminals in this district offer the greatest obstruction to the natural expansion of the central business district.

In this territory are located the principal inbound and outbound freight houses of twelve railroads.* The territory occupied by these terminals is all on the same level and all the railroads enter the territory at practically the same point, so that there is little physical obstruction in the way of combining the facilities of these railroads in one great terminal.

A situation is here presented that would lend itself admirably to the application of the principal of co-operative operation.

It should be possible—with proper co-operation among the railroads interested—to work out a plan of development in this territory that would, while conserving the interests of the railroads, make possible the opening up of thoroughfares and result in a more economic use of property.

In the tentative plans which are submitted herewith, alternative propositions have been developed showing various possibilities of readjusting the freight terminals in this district on the basis of the two level plan for freight handling with warehouse operation.

In all these plans the effort has been made to secure the elimination of present railroad grade crossings and the opening up of streets for uninterrupted traffic without interference with railroad development.

These plans are not intended to represent the mature judgment of the Chicago Railway Terminal Commission. They are presented

*See Table 17 in statistical appendix for list of these Railroads and the average daily freight business of each.

simply as a representation of what might be accomplished through co-operative operation and intensive development. They are presented at this time solely as a basis for discussion and future consideration of the subject.

Of the accompanying plans, Schemes 1, 2, 3 and 4, shown in Plates 7, 8, 9 and 10, are based on the assumption that the south branch of the Chicago River will be straightened substantially along the lines agreed upon in the Union Station ordinance.

In Scheme 5, Plate 11, is shown a possible rearrangement of the terminals for more intensive use, with the south branch of the Chicago River unchanged.

All of the plans are readily adaptable to the universal freight house system.

Scheme No. 1—Shown on Plate No. 7.

In Scheme No. 1 the Chicago River is shown straightened; the present crossing of the L. S. & M. S. and C., R. I. & P. tracks with the C. & W. I. at Sixteenth and Clark Streets is maintained, and the St. Charles Air Line is shown in practically the present location.

The present bridge of the B. & O. Railroad, north of Twelfth Street, is removed, and the B. & C. Railroad is shown crossing the river on the same bridge with the St. Charles Air Line.

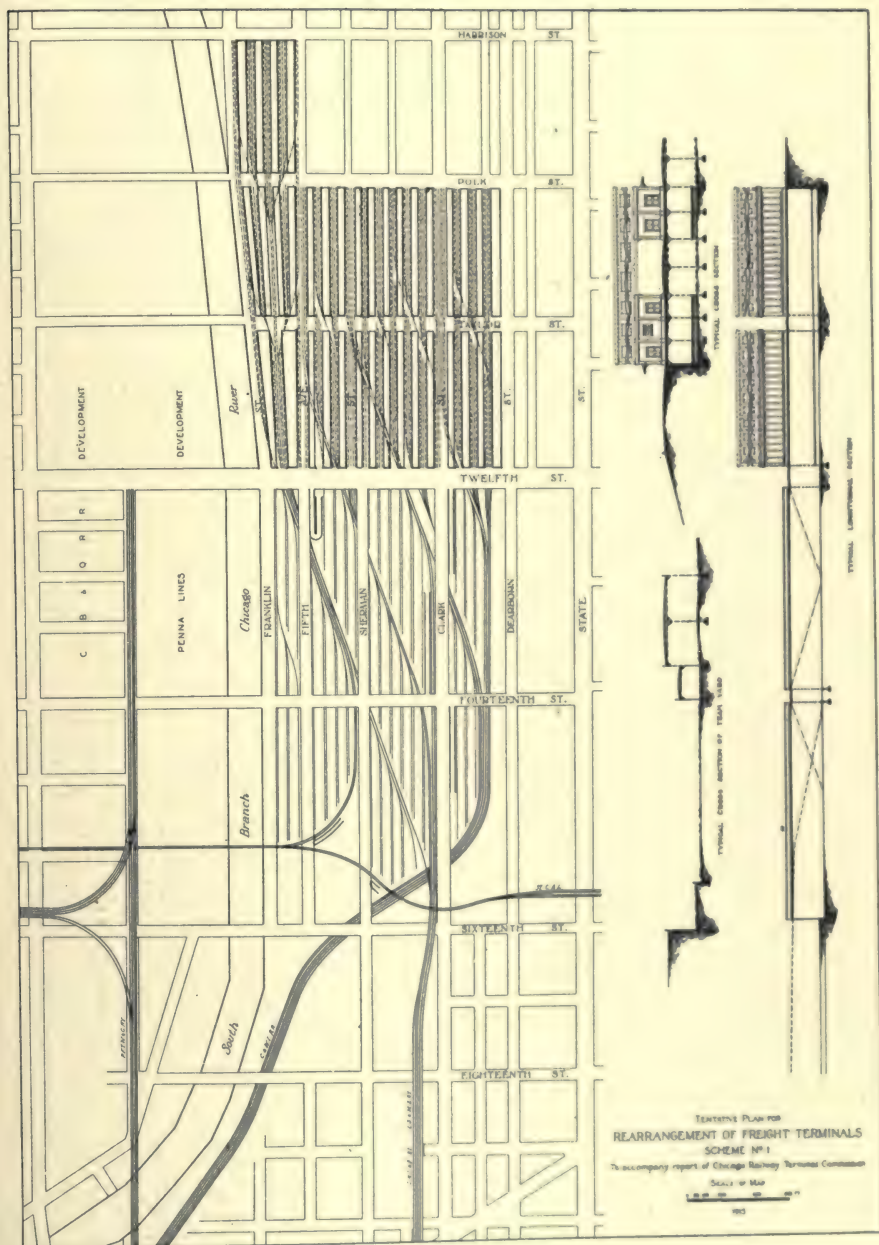
North and south, Dearborn, Clark, Sherman, Fifth Avenue and Franklin Streets are opened up continuously; east and west, Polk, Taylor, Twelfth, Fourteenth and Sixteenth Streets are shown opened continuously through the terminal and across the river. Between Dearborn Street and the River and north of Sixteenth Street, these streets would be on viaduct at the same level as the river bridges, thus permitting occupation of the space underneath with railroad tracks. East of Dearborn and south of Sixteenth Street the street grades would descend to connect with existing street levels.

In this scheme railroad occupation is restricted to the territory west of Dearborn Street and extends northward to Polk Street, with the exception of the B. & O. facilities, which extend to Harrison Street. Freight houses are all located north of Twelfth Street, the territory south of Twelfth Street being occupied with team track layout. In case the L. C. L. Clearing and Universal Freight Houses are adopted, all outbound freight would be loaded into cars at these team tracks.

The capacities of this layout are:

Car standing capacity; house tracks, 2,800 cars.

Car standing capacity; team tracks, 1,290 cars.



Scheme No. 2—Shown on Plate No. 8.

There is considerable doubt as to the necessity of maintaining the St. Charles Air Line as an avenue of interchange between the railroads west of the Chicago River and the railroads east of the Chicago River and on the Lake Front.

The St. Charles Air Line, in addition to furnishing trackage for the interchange of this transfer business, also furnishes a route of entrance for the Chicago, Madison & Northern Railroad into the Illinois Central Terminal.

In the development of the Illinois Central Terminal south of Twelfth Street, it will be found advantageous to provide for a connection with the Chicago, Madison & Northern further south than the existing St. Charles Air Line and various routes of entrance have been considered for this line in this connection.

In Scheme No. 2, shown herewith, the St. Charles Air Line is eliminated, and the Chicago, Madison & Northern is shown extending parallel to and north of Archer Avenue. In this scheme, the Chicago River is shown straightened; the B. & O. existing bridge north of Twelfth Street is removed; and the crossing of the B. & O. shown in line with their present holdings south of Fourteenth Street.

The existing crossing of the Lake Shore & Michigan Southern and Chicago, Rock Island & Pacific with the Western Indiana tracks is also eliminated, and the occupation by railroad terminals is restricted to the territory west of Clark Street.

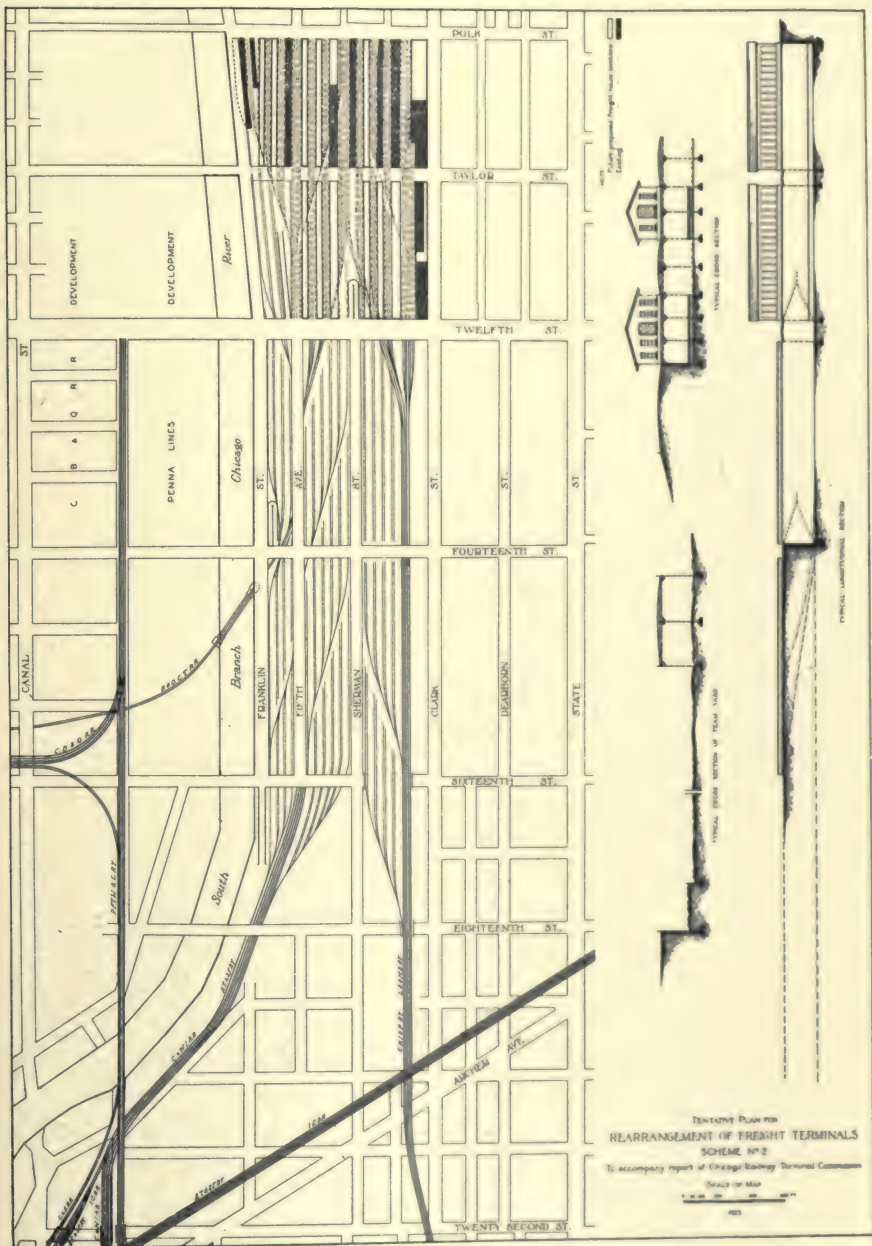
In this arrangement the existing freight house locations west of Clark Street and north of Twelfth Street are maintained, and the possibilities of future locations in this territory are shown. South of Twelfth Street the territory is occupied by team tracks, the controlling principle in this layout being that the houses would only be used for inbound freight and that all outbound freight would be loaded directly into cars from team tracks and rehandled at an outer L. C. L. clearing house.

In this layout existing freight house locations are shown in solid black rectangles; possible additional houses in open rectangles.

The capacity of this layout is:

House tracks; 1,524 cars, standing capacity.

Team tracks; 2,650 cars, standing capacity.



Scheme No. 3—Shown on Plate No. 9.

In this scheme the St. Charles Air Line is removed and the approach to the Illinois Central Railroad from the west is shown south of Eighteenth Street. This permits a complete separation of railroad grade crossings in the territory and makes possible the opening up of Fourteenth Street, Sixteenth Street and Eighteenth Street on satisfactory grades.

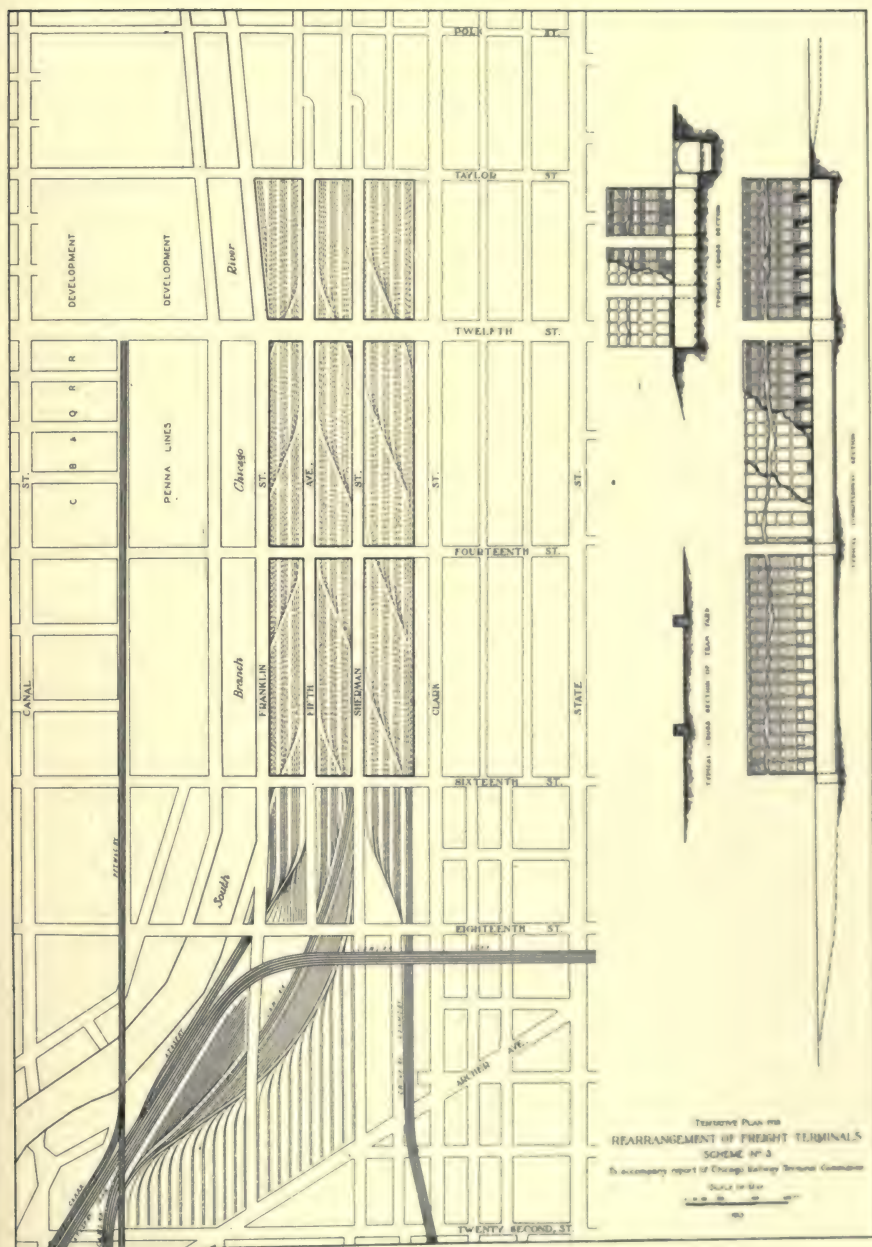
Sherman Street, Fifth Avenue and Franklin Street are shown opened up continuously through the district. Freight houses are located in the territory between Clark Street and the River, and the territory between Clark Street and State Street is shown free of railroad occupation.

As will be seen from the plate, house tracks are shown in sets of four on the lower level, with longitudinal platforms between each set serving two sets of tracks on each side. On the street or upper level the houses are shown provided with cross platforms for receiving freight connected by elevators with the longitudinal platforms below.

Under this arrangement, teams would not occupy street space while receiving or delivering freight, thereby greatly relieving congestion on the thoroughfare streets. It also provides a much greater capacity for standing teams than in the arrangement where receiving platforms are parallel with the tracks and enables a maximum number of cars to be reached with a minimum amount of trucking.

By making the track groups in short lengths economical switching facilities are provided.

This layout gives a car standing capacity of 3,580 cars on house tracks and 800 cars on team tracks.



Scheme No. 4—Shown on Plate No. 10.

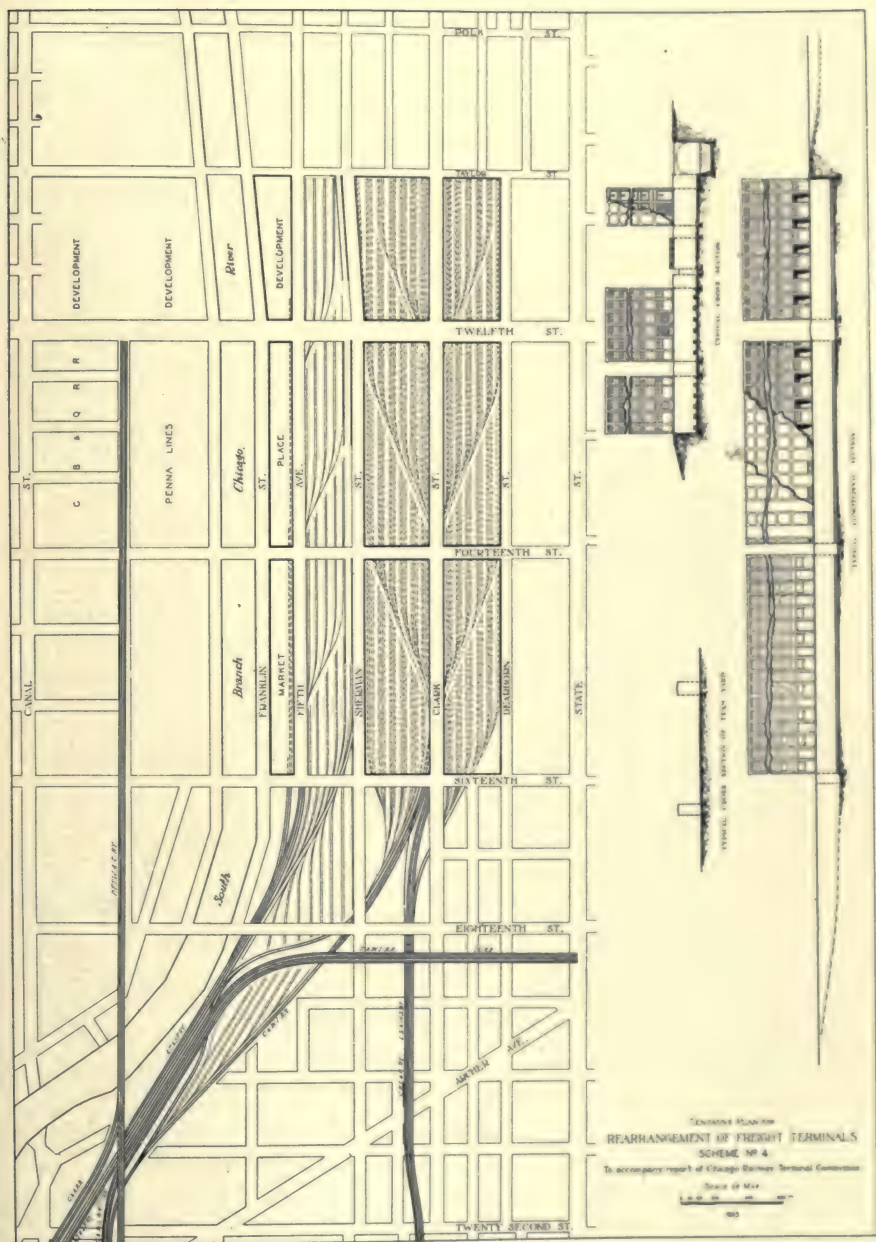
In Scheme No. 4 the track arrangement is practically the same as Scheme No. 3, the St. Charles Air Line being shown removed and the Illinois Central Railroad tracks shown south of Eighteenth Street. The street arrangement is the same as Scheme No. 3, and a similar house layout is used.

In this scheme, however, the railroad occupancy is shown extending east to Dearborn Street. This is done in order to provide for a market place development along the River from Taylor Street to Sixteenth Street.

As shown on the plate, the stores for the market development would be in the narrow block between Franklin Street and Fifth Avenue extended. This would give two broad streets on each side of the stores, which would greatly assist in relieving congestion and would permit of railroad tracks serving the stores on the lower level and also direct access to the stores from the river.

Team track facilities are provided in the blocks between Fifth Avenue and Sherman Street. Should it be found desirable, cold storage warehouses could be provided adjacent to the River, either in the block between Twelfth and Taylor Streets or between Taylor and Polk Streets.

This layout gives a car standing capacity of 3,330 cars on house tracks and 1,070 cars on team tracks.



Scheme No. 5—Shown on Plate No. 11.

Scheme No. 5 shows an arrangement for a more intensive development of freight terminals, with the south branch of the Chicago River remaining unchanged, and on the assumption that the existing passenger terminals between State Street and the Chicago River would be removed.

In this scheme it is contemplated that the present bridge of the Baltimore & Ohio Chicago Terminal Railroad across the Chicago River would remain unchanged, and that a freight development for the tenant roads of this Company would be made between Fifth Avenue and the River and extending to Harrison Street, occupying the territory now used for other freight and terminal facilities.

The St. Charles Air Line and the Lake Shore, Rock Island and Western Indiana tracks are shown as at present.

A two-level freight house development is shown extending from Twelfth Street to Polk Street and from State Street to the River, and the territory between State Street and the River south of Twelfth Street is shown occupied by team tracks. The same arrangement of freight houses is used as is shown in Scheme No. 1, Plate No. 7.

In this arrangement, all streets between State Street and Fifth Avenue are shown opened up to Twelfth Street. South of Twelfth Street, Dearborn Street and Clark Street are shown opened through the terminal. Polk and Taylor Streets are shown on an upper level with ramps connecting with State Street.

This layout gives a car standing capacity of 1,030 cars on house tracks and 900 cars on team tracks.

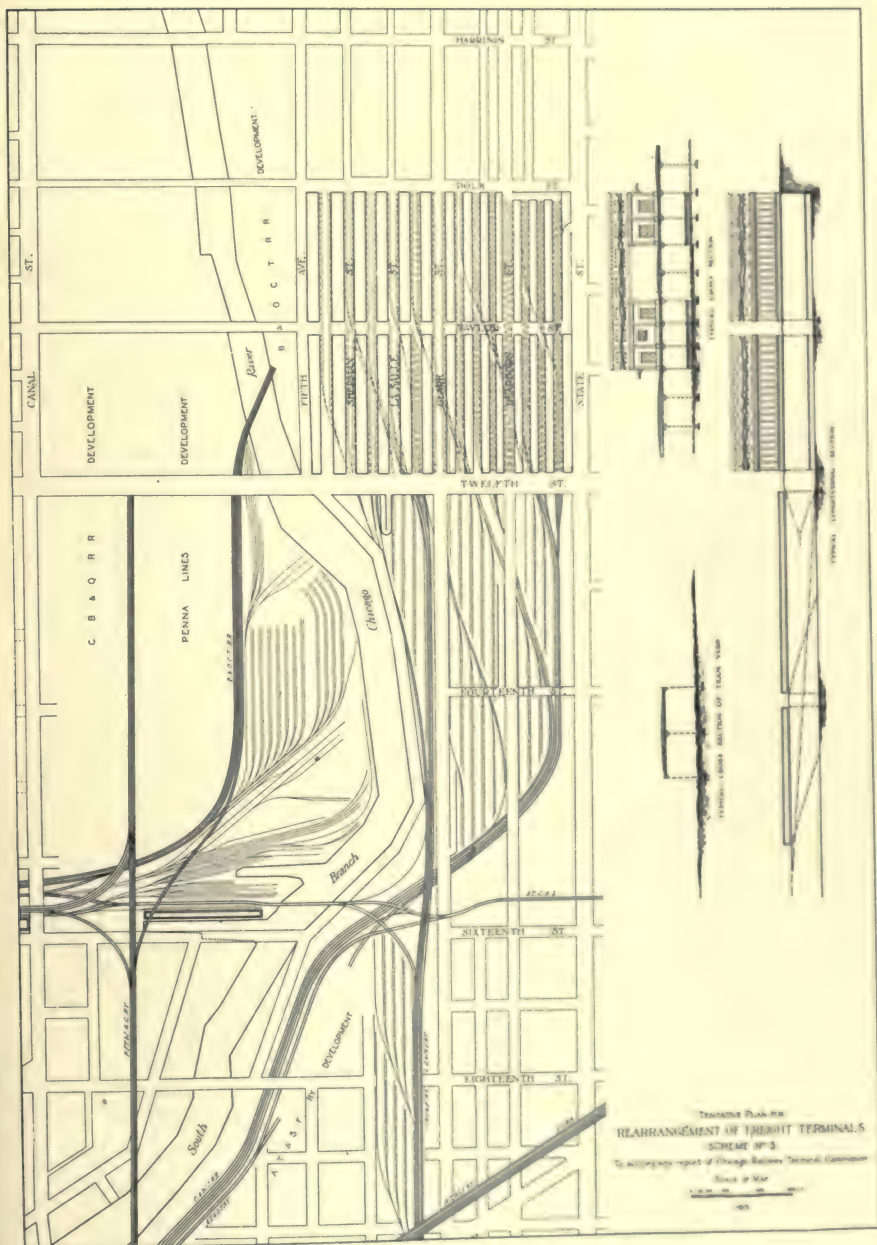


EXHIBIT No. IV
STRAIGHTENING CHICAGO RIVER

EXHIBIT No. IV

STRAIGHTENING CHICAGO RIVER

On Plate No. 12 is shown the proposed straightening of the south branch of the Chicago River along the line given in the Union Station ordinance and the Pennsylvania R. R. freight ordinance March 23, 1914, and the B. & O. C. T. ordinance passed February 19, 1915, and the C. & W. I. ordinance now pending before the City Council.

The property owned by different railroads in the district affected by this proposed change is shown on this plate and in the following table is given the approximate areas between Clark Street and the center line of Dodge Street, which is the west line of the proposed change.

The areas given are based on a compilation of available existing data and are as reasonably accurate as could be obtained without making a special survey.

AREAS DUE TO RIVER STRAIGHTENING

<i>Present Ownership</i>	<i>Prop. Required for New Channel Square Feet</i>	<i>Prop. East of New Channel Square Feet</i>	<i>Total Area East of Center Dodge Street. Sq. Ft.</i>	<i>Remarks</i>
C. R. I. & P. and L. S. & M. S.	0	272,200	272,200	Cor. 12th & Clark Sts.
C. R. I. & P.	0	208,500	208,500	Clark, 12th - 16th Streets
C. R. I. & P. and L. S. & M. S.	0	259,200	259,200	Clark, 12th - Air Line
C. R. I. & P. and L. S. & M. S.	0	109,500	109,500	Bet. Air Line & 16th St.
St. Charles Air Line	0	19,741	19,741	Bet. River & Clark St.
Chicago River	29,450	689,625	719,075	12th to 16th, incl., slips
C. B. & Q.	58,900	71,330	130,230	16th & Stewart Avenue
C. B. & Q. and C. & N. W.	6,400	2,570	8,970	Just north of 16th St.
C. & N. W.	70,500	428,500	499,000	River to Stewart Avenue
B. & O. C. T.	359,700	601,300	961,000	12th St. to C. & N. W.
TOTAL	524,950	2,662,466	3,187,416	

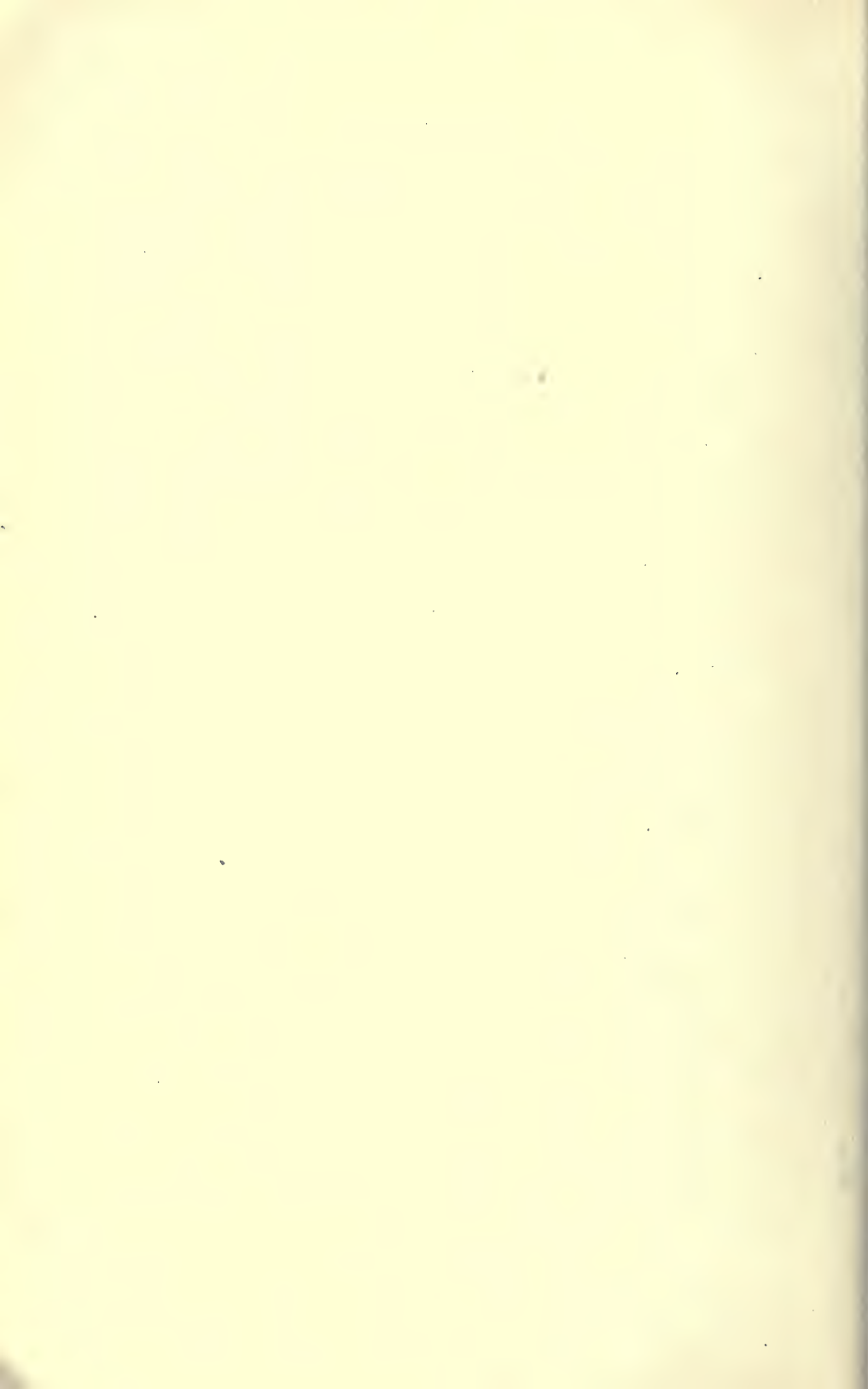
Area of present property east of river=869,141 square feet.

Difference in area between present and proposed River Channels=194,125 square feet.

Additional area on east side of river, due to straightening=1,793,325 square feet.

The distance from the present S. W. Cor. 12th and Clark to the proposed east line of Chicago River is 1,014 feet.

APPENDIX "A"
EUROPEAN TRIP



APPENDIX "A"

EUROPEAN TRIP

CHICAGO RAILWAY TERMINAL COMMISSION EUROPEAN TRIP—1914.

The personnel of the party was as follows:

MEMBERS OF THE CHICAGO RAILWAY TERMINAL COMMISSION:

JOHN F. WALLACE, *Chairman*,
WALTER L. FISHER,
BION J. ARNOLD,
EDWARD H. BENNETT,
LAWRENCE E. MCGANN, *Commissioner of Public Works*,
JOHN W. BECKWITH, *Assistant Corporation Counsel*,
ALDERMAN ELLIS GEIGER,
Chairman, City Council Committee on Railway Terminals.

CHAIRMEN OF THE FOLLOWING COMMITTEES OF THE CITY COUNCIL:

Committee on Finance—

ALDERMAN JOHN A. RICHERT, *Chairman*,

Committee on Local Transportation—

ALDERMAN EUGENE BLOCK, *Chairman*,

Committee on Harbors, Wharves and Bridges—

ALDERMAN HARRY E. LITTLER, *Chairman*,

Committee on Streets and Alleys—

ALDERMAN WILLIAM J. HEALY, *Chairman*,

Committee on Health—

ALDERMAN WILLIS O. NANCE, M. D., *Chairman*.

REPRESENTING THE BOARD OF EDUCATION:

JOHN D. SHOOP, *First Assistant Superintendent of Schools*,
LEWIS E. LARSON, *Secretary Board of Education*,
ANGUS ROY SHANNON, *Attorney for the Board of Education*.

REPRESENTING THE ASSOCIATION OF COMMERCE:

HENRY C. BARLOW, *Traffic Director*.

REPRESENTING THE CITY CLUB OF CHICAGO:

GEORGE E. HOOKER, *Civic Secretary*.

REPRESENTING THE STEAM RAILROADS OF CHICAGO:

EDWARD C. CARTER, *Consulting Engineer*.

REPRESENTING THE CHICAGO SURFACE LINES:

JOHN E. WILKIE, *Assistant to President*.

STAFF ACCOMPANYING PARTY:

WILLIAM F. HARRAH, *Secretary of City Council Committees.*

E. N. LAKE, *Engineer.*

A. R. CONNER, *Stenographer.*

Before leaving Chicago it was necessary to secure sailing accommodations, work out an itinerary, arrange necessary credentials and advise the authorities of the cities to be visited of the probable time of arrival of the party and the nature of the information desired. This work was carried on with all possible dispatch and the party left Chicago with the following itinerary arranged:

July

ITINERARY.

9—Thursday	Toronto
10—Friday	Montreal
11—Saturday	} Boston
12—Sunday	
13—Monday	New York
20—Monday	Arrive Liverpool (Lusitania)
20—Monday	Leave for Manchester
21—Tuesday	In Manchester
21—Tuesday	Leave at noon for London
22—Wednesday	} In London
23—Thursday	
24—Friday	
25—Saturday	} London to Paris
26—Sunday	
27—Monday	} In Paris
28—Tuesday	
29—Wednesday	
30—Thursday	Paris to Frankfurt
31—Friday	In Frankfurt
<i>August</i>	
1—Saturday	Frankfurt to Vienna
2—Sunday	} Vienna (Vienna to Budapest and return, optional)
3—Monday	
4—Tuesday	
5—Wednesday	} Vienna to Dresden
6—Thursday	
7—Friday	Dresden to Berlin
8—Saturday	} Berlin (Berlin to Liepzig and return, optional)
9—Sunday	
10—Monday	
11—Tuesday	} Berlin to Hamburg
12—Wednesday	
13—Thursday	Hamburg to Kiel
14—Friday	Kiel to Copenhagen
15—Saturday	Copenhagen to Stockholm
16—Sunday	} In Stockholm.
17—Monday	

From Stockholm, the return to Berlin, Paris or London, optional with members of the party.

The party left Chicago the afternoon of Wednesday, July 8th, arriving in Toronto the morning of July 9th.

At Toronto the party was shown over the railway terminals, the harbors and wharves, and was particularly interested in the harbor work now under way by the City of Toronto, the magnitude and completeness of which was considered an object lesson applicable to Chicago, particularly as Toronto—like Chicago—is situated on the Great Lakes, and its harbor facilities are therefore the accommodation of lake traffic. This similarity is modified to some extent, however, by the existence at Toronto of a large amount of car ferry traffic which does not exist at Chicago.

The harbor improvements and construction at Toronto included the construction of about five miles of dockage; the reclamation of about one thousand acres of land for industrial purposes; the building of an outer driveway around the harbor; the construction of a bathing beach and protective waterways for pleasure crafts.

All of the harbor work is under control of the Harbor Board, composed of five members, who serve without pay. Three of the members of this Board are selected by the City and two by the Dominion Government.

In connection with the harbor improvements there is also under way at Toronto a rearrangement of railway terminals, involving the building of a terminal station and a great amount of grade separation work.

From Toronto the party proceeded to Montreal where it was met by representatives of the city, the Harbor Board and the railroads. A visit was made to the railway terminals which are quite extensive and through which a large volume of traffic is handled, particularly during the summer months when the harbor is open for trans-Atlantic shipments.

The harbor facilities are administered by a Harbor Board and are constantly being improved. There are extensive facilities for handling cargoes of grain and several modern piers capable of handling packages on two levels. There is a harbor railroad operated by the harbor authorities which connects with all railroads and performs the switching operations between the railroad connections and the wharves.

From Montreal the party traveled to Boston, where the harbor and freight terminals were inspected; also the two passenger terminals, the north station and the south station. The freight terminal situation in Boston is similar to that in Chicago, except that it is complicated with the necessary arrangements for handling of freight

between railroads and boats; that is, the railroads each have their own terminals and there is no independent railroad operating on the wharves by harbor authorities as there is in Montreal. The passenger service is concentrated in two great co-operative passenger stations—one for the northern and the other for the southern roads.

The South Passenger Station in Boston is the largest in America, the number of passengers handled daily at this station exceeding the number handled in all of the passenger stations in Chicago. A large percentage of this traffic, however, is suburban, the number of long distance trains being considerably less than in Chicago. Through routing of passenger trains between the North Station and the South Station is suggested.

It was learned that the freight terminal situation in Boston is becoming acute and that considerable study is being made at the present time to remedy the conditions existing there.

From Boston the party proceeded to New York. In New York they inspected the Pennsylvania Station and the new Grand Central Station, and were taken by the harbor authorities by boat along the river front, where they had an excellent opportunity to view the harbor development of New York.

A visit was also made to the Bush Terminal, at South Brooklyn, where the party was shown over the workings of this plant.

The Harbor authorities furnished the party with statistical information showing the growth and existing commerce of the Port of New York, and also explained the plans for extension of the harbor facilities. After making this inspection a trip was made through the subways of New York.

The railroad situation in New York is very different from that existing in Chicago, but the Commission was able to observe a very practical demonstration of the value of through routing in the subways.

The party sailed from New York for Europe on the Cunard Line S. S. Lusitania, July 14, 1914.

The party arrived at Liverpool Monday, July 20, where the Right Honorable Lord Mayor Rathbone of Liverpool came on board to receive them. He was accompanied by A. D. Mearns, Manager, and E. J. Hoblyn, in charge of salon passengers, of the Cunard Company; J. A. Chandler, Chairman and General Manager; C. Dow and L. A. P. Warner, members of the Mersey Docks and Harbor Board; J. E. Charnley, Cheshire Lines Committee; G. T. Phizackerly, of the London & Northwestern; T. Henshaw, of the Lancashire and Yorkshire; T. Evans, of Midland Railway; E. J. Neachell, General Manager of

the Liverpool Overhead Railway Company; Donald Rose, European Traffic Manager of the Illinois Central Railway; E. J. Wareing, of the Grand Trunk Railway; Philip LeQ. Berry, Liverpool Representative of the Illinois Central Railway; Percy Corkhill and R. Crail.

After dinner, which was served at the Midland-Adelphi Hotel, Mr. Chandler, General Manager of the Mersey Docks and Harbor Board, read an address descriptive of the workings of the Board.

Tuesday, July 21, the party was conducted to the offices of the Mersey Docks and Harbor Board by Philip LeQ. Berry. After viewing the maps and models of the harbor plan, an inspection was made of the docks and wharves and the railway terminals and connections, under the guidance of Messrs. Dow, Warner, Phizackerly, Henshaw and Neachell.

From the addresses made and as a result of the interviews and inspections, the following information relative to the harbor and terminal facilities at Liverpool and the management and operation of the same was developed.

The docks, wharves and facilities in connection with the Port of Liverpool, together with connecting railroads serving these facilities, are under the management and control of the Mersey Docks and Harbor Board. This Board consists of twenty-eight members, twenty-four of whom are elected by the dock rate payers and four by the government. These members serve without remuneration for their services.

The harbor development is on both sides of the River Mersey, the Liverpool side having a frontage of six and a half miles, with a water area of 430 acres and a lineal quayage of twenty-six and a half miles. The Birkenhead side has a frontage of one and a quarter miles, a water area of 172 acres and a lineal quayage of about ten miles. The total area of land and water under control of the Harbor Board is about 4,200 acres.

The Harbor is very completely equipped with warehouses and extensive mechanical equipment for the transfer of freight between the wharf and the vessels. The Harbor Board operates the connecting railroad which serves the wharves and has connection with all of the railway terminals. Switching service is performed by the Harbor Board; that is, their engines take loaded cars from the railway terminal yards and deliver them to the warehouses and wharves and return the empties, and vice versa. This service is performed approximately at cost.

The total amount charged to capital expenditure by the Board up to 1913, amounted to \$150,000,000. The annual revenue for main-

tenance amounts to about \$11,000,000, and the expenditures for maintenance about \$5,000,000, and for interest on capital about \$4,500,000.

The total imports and exports passing through the Liverpool port amount to 3,706,448 tons—about equal to those of London—and amount to about 28 per cent of the total of the United Kingdom.

Later the party visited the Lime Street Station of the London & Northwestern Railway, where Mr. W. N. Turnbull, Assistant Superintendent of the Lines, conducted the party over the station.

From Liverpool the party proceeded to Manchester, arriving there the afternoon of Tuesday, July 21. The party was received at the London & Northwestern Depot by Right Honorable Lord Mayor of Manchester, Alderman McCabe; Dr. W. St. C. McClure, Deputy Medical Officer; Mr. Walker, Superintendent of Police and others, and escorted to the Midland Hotel, where a luncheon was given by the Board of Manchester Ship Canal, John K. Bythell, Esq., Chairman of the Board, presiding.

In addition to the members of the Chicago party, there were present Lord Mayor McCabe; John K. Bythell, Chairman of the Board of the Manchester Ship Canal; Alderman Sir T. Thornhill Shann, former Lord Mayor; Marshall Stevens, Secretary of the Trafford Park Estates Company; Henry C. Pingstone, Esq., Director of the Ship Canal Company; Mr. Walker, Superintendent of Police; Mr. Eyre, Superintendent and Accountant of the Ship Canal Company; Herbert M. Gibson, Chief Traffic Superintendent of the Canal Company; H. A. Reed, Chief Engineer of the Canal Company; Dr. McClure, Deputy Medical Officer; Mr. Meek, Deputy City Surveyor; Counsellor Sir Charles Behrens, former Lord Mayor; W. H. Robertson, United States Consul at Manchester, and Donald Rose, European Traffic Manager of the Illinois Central Railroad.

After luncheon the party listened to the addresses of Lord Mayor McCabe and Mr. Bythell, and were then escorted by Messrs. Gibson, Latimer, Reed and Stevens on a trip of inspection of the Manchester Ship Canal, including the various warehouses, wharves, docks, mechanical appliances, etc., operated in connection with the Canal; also the Trafford Park Estates, which are adjacent to the Canal and on which a large industrial development is being made. The party was escorted through the Trafford Park Estates by Mr. Stevens and were later entertained at tea at Trafford Hall by Lord and Lady Royle.

Mr. Stevens explained to the party the facilities for the transshipment of goods and explained the arrangement between the Trafford Park Estates and the Board of the Manchester Ship Canal, by

which the transfer of traffic between the Ship Canal and any part of Trafford Park was performed at cost. Incidentally, the party was conducted through the local plant of the Westinghouse Electric & Manufacturing Company in the Trafford Park Estates by Phillipp Lange, Managing Director.

The Commission was very much impressed with the enterprising spirit displayed by the people of Manchester in causing this ship canal to be dug for a distance of thirty-five miles, thus opening up Manchester to the traffic of the world, Manchester being today—in the point of export trade—the fourth largest port in the United Kingdom. As at Liverpool, the party learned that the Port of Manchester also was provided with a connecting railroad which handled all traffic between wharves and warehouses and the yards of the connecting railroad, performing the service practically at cost and allowing all railroads equal access to all points in the port.

From Manchester the party proceeded to London, arriving there Wednesday, July 22. In the forenoon a visit was made to the plant of the New Transport Company, where the party was shown a full size working model of the apparatus designed by this Company for the handling of freight between wagons and cars and from car to car by a system of cranes and platform carriers. The Commission was very much interested in this demonstration, but was not clear as to its application to conditions as existing in America.

In the afternoon the party was conducted by Mr. Rose to the office of the London Dock Board and from there proceeded in charge of Mr. A. Binns to the Albert and Victoria docks.

On Thursday the party visited the Broad Street Goods Station of the London & North Western Railroad. The Broad Street Goods Station is on two levels, cars being taken from one level to the other by means of elevators; the movement of cars into the various sidings being accomplished by means of turn tables and capstans and not by switching with locomotives as is done in America.

The London & North Western Railway has various stations to which is brought inbound and outbound freight for delivery to certain prescribed territory, Broad Street Station being one of these stations. Only the lower level of this station has connection with the railroad lines. The capacity of the Broad Street Station was 387 cars per day.

After being shown the operation of the turn tables and elevators, the party was conducted to the receiving warehouses, where outbound freight is received from the trucks and wagons and is sorted

and loaded into the railroad cars, and the method of performing this work was explained.

From here the party went to the Camden Goods Station, which is the general break-up yard and place where goods are re-sorted for the various other stations of the London & North Western in London, this road having twenty-eight stations in the city of London.

It was stated here that the full carload business amounted to about 20% of the total number of cars hauled, the balance being loaded with L. C. L. shipments, which are re-sorted into cars bound for the proper destination. This applied to inbound business. Out-bound business is loaded directly in the proper car at the receiving station.

The method of carrying on the work at this station was explained to the Commission and also the arrangement in existence regarding the interchange freight between several roads entering London.

It developed in the course of these explanations that each railroad will receive freight destined to points on other roads a distance from London, but will not receive freight destined to a point on another railroad within London Terminal District.

At 4:30 P. M. a reception was tendered to the party by the London Chamber of Commerce. The members of the party were received on behalf of the Chamber of Commerce by Mr. F. Faithfull Begg, Chairman of the Council; Mr. Arthur Serena, Treasurer of the Chamber; Sir Albert K. Rollitt, D. C. L. Ex-President; Mr. C. Urquhart Fisher, L. C. C.; Mr. J. E. Evans Jackson, Mr. Graham P. Spicer, the Honorable J. G. Jenkins, Mr Stanley Meachim, Vice-President, Mr. William Gillespie (Members of the Council Chamber); Lord Claude Hamilton, M. P., Chairman of the Great Eastern Railway; Mr. J. H. Fahey and Mr. Donald Rose.

On Friday, July 21, a visit was made to the Liverpool Street Station of the Great Eastern Railway. This station has eighteen station tracks and for operating purposes is divided into three sections, namely: West Suburban, Main Line, and East Suburban. The maximum traffic handled at this station per hour is ninety-six trains with the possibility of operating at a three-minute headway. On the busiest day it was stated that they were operated in and out of this station 1,300 trains and that on a normal day the number of people carried in and out exceeded 200,000.

After an inspection of this station the party was taken to the office of Mr. Thornton of the Great Eastern Railway and the questions of through routing and electrification were discussed. Mr.

Thornton expressed himself very much in favor of through routing suburban business and explained to the party how profitable suburban business was to the railroads entering London. He also stated that with a given density of traffic he was firmly convinced as to the economy of electrical operation.

The party also learned that the Brighton branch of the South Eastern Railroad is being electrified and very serious consideration being given to the electrification of the passenger service of other lines entering London, and that the project of through routing of suburban trains was receiving very serious consideration and that the consensus of opinion among railroad men seemed to be that this through routing was desirable, and plans are in progress of preparation for carrying this through routing into effect.*

In regard to freight business, the fact which most interested the Commission was the arrangement of tariffs so that they were divided between terminal charge and line haul, that is, an assignment of freight originating in London would have a tariff charge covering the terminal cost; at London another tariff covering transportation and another tariff for the terminal work at destination, the terminal charges covering the unloading of freight at the house and also the cost of handling consignments from the freight house to the warehouse or stores of the consignee.

All of this work is being performed by the railroads, although it is optional with the shipper to cart his own consignment to the freight depot if he so elects and secure a rebate of that portion of the tariff covering this work.

The party left England on Sunday, arriving at Paris Monday, July 27. The morning was devoted to a visit to the Prefecture of Police, where the party was received by M. Laurent, also M. Joltrain, Superintendent of Circulation, and M. Kling, Laboratory Chief. The method in vogue for handling traffic on the streets was explained and a visit made to the laboratory and to the Police School, and the Commission was afterwards given an exhibition of fire fighting methods.

At 3:00 o'clock, P. M., a reception was tendered to the party at the Hotel de Ville, by M. LeMarchand, Vice-President of the Council Municipal; M. Laurent, Secretary General of the Prefecture of Police; Mr. Aubannel, Secretary General of the Prefecture of the Seine; and M. Cherest, Secretary of the Council General. Amba-

*For complete report of interview with Mr. Thornton see supplement to this appendix.

sador Herrick and members of an important American official party were also present.

On Tuesday, July 29, a visit was made to the Gare de Lyons, where the party was received by M. Leon Humbert, Station Master, and M. Felix Lorinet. After an inspection of this station, the party proceeded to the Bourcy Freight Station where the method of operation was explained to the Commission.

At this station the freight is received on platforms and sorted and loaded into cars. The cars are switched by turntable and capstan the same as in London. The railroads here engaged in the delivery and collecting of freight at the door of the consignee, the same as in London, about 50% of the freight being handled by the railroads with their own teams and the balance by private drayage companies.

From the Bourcy Freight Station the party proceeded to the Gare d'Orleans, where an inspection was made of freight and passenger terminals. After being shown over both of these properties and the facilities connected therewith—one of which was the device for the automatic sorting of express packages—the party proceeded by train to the new depot of this line, the Gare d'Orsay. This station is located within a mile of the Gare des Invalides of the State Railroad.

It has been stated that the officials of the road have been considering the desirability of connecting these two stations so as to make a through route through Paris. It was also developed in connection with these investigations that there is a considerable business through Paris at the present time, solid passenger trains being transferred from one side of Paris to the other by belt lines. This traffic is mainly tourist travel and is carried on the entire year, but is particularly heavy in the winter time.

M. Humbert explained the method of operation of the inner and outer belt as regards freight and passengers. At indicated points of transfer this belt line is used for passenger service and also for freight service, performing an interchange service between different railroads and also a switching service between points on its line.

Wednesday, July 29. A visit was made to the Gare St. Lazarre, which is the station of the government owned railroad. The party was received by M. Hornolle, Chief Engineer, and also M. Clavielle, Engineer in Chief of Bridges and Roadway, who explained to the party the general feature of the station, which was at that time in process of reconstruction. One of these features was the mechanical

appliance for the handling of packages between cars and the baggage room.

M. Hornelle and M. Claveille also explained to the party the history in connection with the taking over and operating of these railroads by the State and the amount of payments made and the time in which these payments would cease and the property become owned by the State. M. Tony Reymond, General Secretary, was present and offered to send, upon request, any information or statistics desired.

From the Gare St. Lazarre the party proceeded to the office of M. P. Dommange, Director of the Control Common, and from there to the office of M. Albert Sartiaux, Engineer in Chief of Bridges and Roadway of the Chemins de Fer du Nord, and made an appointment for an interview for the party for the following day.

In the evening M. Dieny and M. Lucas, who have been making a study of the transportation facilities of Paris, explained some of the peculiar circumstances which determined the nature of the transportation problem in Paris, system of fares charged, method of operation, etc.

Thursday, July 30. The party made a visit to the Gare du Nord and were received by M. Javary, Engineer of the Chemain de fer du Nord, and Mr. Moutier, Engineer in Chief of the Technical Service. These men explained fully the operation of the inner and outer belt railroads. It developed during this interview that the outer belt railroad is used principally for the detouring of carload freight around Paris, a great deal of this being handled in solid trains with the power of the connecting roads, although where the transfer is less than the train lot it is handled by the power of the belt railroad.

The Belt Railroad also performs a switching service between points on its line. The inner belt is used principally for the movement of L. C. L. freight and in this case most of the movement is made by the power of the Belt Railroad, although occasionally there is a movement over this line by the power of the connecting roads.

Most of the through passenger service referred to previously is handled over the outer belt, but in some instances it is handled on the inner belt.

Traffic destined to Paris, passing over the inner belt, is assessed a tariff in addition to the main line tariff. On many commodities this is on a mileage basis. Both of these railroads, in addition to the freight service, handle passenger service—which is principally suburban.

After leaving the Gare du Nord, the party made a trip on the Seine in one of the regular passenger boats which operates on this river.

From all of the investigations made at Paris, that which most interested the Commission as being of value to them in their deliberations relative to the Chicago terminals, was the fact that—to a modified extent—through routing of trains is in existence at the present time in Paris and that the authorities in charge of the operations there looked with favor on it and were in process of bringing about a more extended application of the through route principle.

The party was very much interested also in the investigations in connection with the River Seine where the traffic to a considerable extent is carried on by barges and lighters under fixed bridges, which not only provide uninterrupted travel across the river, but also lend themselves admirably to the architectural treatment of the river and its banks.

About the time the party had completed its investigations in Paris, the possibilities of war in Europe became apparent and advices were received from officials at Frankfort and Vienna which indicated that—on account of existing conditions—it would be difficult for the Commission to make any extended investigations at these places.

The American Ambassador advised the party that he thought it would be more prudent to change the itinerary so that the party might be near the coast and in position to return to England in case hostilities should break out.

It was therefore decided to proceed to Antwerp, by way of Brussels, and after having visited both of these places, arrange the itinerary so as to include a trip through Germany and Austria, if conditions permitted.

The party left Paris on the morning of Friday, July 31, and proceeded to Brussels, where an interview was held with M. Jacques, who exhibited the plan for the new depot at Brussels and the conditions which led to the adoption of the plan.

The existing facilities consisted of a north station and a south station, both of which were stub-end stations. As some of the traffic of Brussels was through traffic, it there became necessary—in the operation of the through trains—to head into the station, back out and use a belt line around the city, and then go through the same process at the other station. On account of the many additional movements occasioned by this method of operation, the stations were inadequate in size and additional facilities were necessary.

The authorities therefore came to the decision that a through station would be better adapted to the situation, and made plans for the construction of a line connecting these two stations directly through the city and providing for a central through station thereon.

The plan shows this connecting link, partly in tunnel and partly in an elevated structure, and on account of the objection to the operation of steam locomotives through tunnel, consideration was being given to the proposition of operating this stretch of track with electric locomotives.

With the station completed, trains originating at Paris would be operated directly through this station and continue on to points beyond, and trains for which Brussels is a terminal would be operated through the station from north to south, as the case may be, and into the yards at the opposite side of the city, so that the entire operation of this station would be as a through station.

This arrangement to be solely for the accommodation of through trains, or, rather, long-distance trains, as suburban trains will not use the central station.

This feature of operating trains through the station to a coach yard on either side was of much interest to the Commission. It was stated that the total trains using the station in a day would amount to about 300, of which 100 would be through trains and the other 200 Brussels terminal trains.

It developed during the interview that this project was started under the former administration and that the present administration was not altogether in favor of it, but was compelled to carry out the contracts already entered into. The principal objection to it seemed to be the cost and the physical difficulties of carrying out the project.

Later in the afternoon the party proceeded to Antwerp.

On Saturday, August 1, a trip of inspection was made around the docks and on the River Scheld. The Commission was much impressed by the splendid and extensive harbor facilities and the relation of the municipality to them. It was found at Antwerp—as at Liverpool and Manchester—that there was in operation an independent terminal railway, which performed the switching service between the railroads and the wharves and docks, this railroad being independent of the main transportation lines and under direct control of the harbor authorities and performs services ostensibly at cost.

War having been declared between several European countries and a general mobilization of the troops of Belgium ordered, it was felt that it would be impossible for the Commission to carry on any further negotiations on the Continent, and it was advised by U. S.

Consul Diedrich that it would be advisable to return to London. Accordingly on Sunday the party proceeded to Ostend and took steamer to Dover and thence to London, arriving there Monday, August 3.

Soon after arriving in London war was declared between England and Germany. It was exceedingly difficult to secure money, an extended bank holiday having been declared, and the interest of the country was so absorbed in the war situation that it was felt that it would be impossible for the Commission to continue any investigations in England, and on account of the great difficulty of securing sailing accommodations for the party in a body for return to this country, after a discussion the following resolution was unanimously adopted:

"WHEREAS, Present conditions existing throughout Great Britain and Europe, do, in the opinion of the Chicago Railway Terminal Commission and its associates, render impossible the carrying out as a body of the plans laid down for the government of the Commission and its associates when they left Chicago; now, therefore, be it

Resolved, That it is the sense of the members of the Chicago Railway Terminal Commission that they be relieved from further joint and several duties, and they do recommend that they individually arrange their return home whenever practicable."

In each of the several cities visited those who were traveling with the party and making investigations not related to railway terminals were put in communication with the proper authorities and every facility and courtesy extended to them for the carrying on of their investigations.

The Commission wishes to acknowledge the assistance and courtesies extended by the municipal and railroad officials of the various places visited and the great assistance rendered by Donald Rose, European Traffic Manager of the Illinois Central Railroad, in arranging for transportation, hotel accommodations and interviews in England; and the assistance rendered by Mr. Wm. J. Thomas, Assistant Director-General in Europe for the American Express Company, also M. Contanseau, Director of the Paris Bureau, and M. Paroutand, his assistant, who performed like services for the party in Paris.

SUPPLEMENT TO APPENDIX "A"

Stenographic report of interview between members of the Railway Terminal Commission and those accompanying them on their European trip, and Mr. H. W. Thornton, General Manager of the Great Eastern Railway of England, held in the general offices of the Great Eastern Railway, Liverpool Station, London.

MR. ARNOLD: Mr. Thornton, if you had your way about it, would you prefer a through or sub-station?

MR. THORNTON: Based on the assumption that your traffic either wants to go beyond your station, or a traffic can be developed beyond that station, then a through station is in every respect infinitely more satisfactory than a stub end. It will handle more traffic and handle it more satisfactorily.

MR. ARNOLD: If you could connect this road with some other road to the south, or somewhere—?

MR. THORNTON: In so far as Liverpool Street Station is concerned, if we were able to connect with some one of the underground systems, electrify our own suburban zone so that we could run trains through Liverpool Street on to the rails of the Underground system, we could relieve our congestion by at least fifty per cent. Certainly, if we could accomplish the same purpose by connecting with some other line, it would be equally advantageous to the other line as to ours to run trains straight through the city.

MR. FISHER: When you say "another line" you mean another line now operated by steam?

MR. ARNOLD: That is all based on the assumption that equitable arrangements could be arranged with other lines to do that?

MR. THORNTON: You understand that is physically impossible? The other lines do not exist.

MR. FISHER: Isn't it true that the traffic from east to west is here?

MR. THORNTON: You understand that practically it comes down to this: Liverpool Street Station and Friendship Street Station, which we also own, are the only stations in the East End. There are a lot of stations of other lines in the West End. The Underground lines form the only link that can exist between our station and other

stations in the west. Therefore, those Underground lines must necessarily be the only avenue we can use in reaching them.

MR. ARNOLD: If the Underground would take their cars off and let you put your cars on, that is what would suit you?

MR. THORNTON: Yes, in consideration of our electrification problem, unless we can form the physical connection with some one of the Underground systems and run our trains through, I don't think we are justified in electrifying.

MR. FISHER: There are lines in the West End which are in many respects situated as you are which would like to connect their trains up with the Underground coming to the east?

MR. THORNTON: They would like a through service.

MR. FISHER: They would like a through service, just as you would. Now, the question is whether or not it is not one of the things to which careful attention should be paid as to whether or not it would be possible to effect the interchange between your road and one of the West End roads, so that, having carried your trains through to the West End, you might have certain coach yard facilities and they use your coach yard?

MR. THORNTON: Undoubtedly. If, for instance, three or four, perhaps, of the West End lines would run their suburban trains right through to the Underground and out on our lines and back again, it would be the maximum of economy.

MR. FISHER: And from the point of view of railroad operation, it would be a highly desirable thing, wouldn't it, Mr. Thornton?

MR. THORNTON: In other words, here is the suburban zone, and we will say that here is Liverpool Street, and here are some of the western lines, and here, we will say, are their suburban zones. (Indicating.) Now, obviously, if a train can be started here and run right through around the same way and back again—

MR. ARNOLD: The "E" represents Liverpool Street—

MR. THORNTON: The "D" generally represents the west terminal of the other steam line; C, D, and A represent their suburban zones; "F" represents the Great Eastern suburban zone. If you could run a train from A, B, or C through D, E, out into F and back again, that would be desirable.

MR. FISHER: Your railroads here, Mr. Thornton, are apparently very much interested in considering electrification, especially on their suburban traffic?

MR. THORNTON: Yes.

MR. FISHER: That, I should judge, is because you feel the competition of the trams and the busses and the things of that sort?

MR. THORNTON: It is partly competition. I don't know whether I stated it to you or not, but when you reach a certain density of traffic it becomes more economical to electrify. When you reach a further condensation of traffic, you must electrify if you are going to handle the business to the satisfaction of the public and economy to yourself.

MR. FISHER: Our American lines are in the habit of saying, "We do not care for suburban business."

MR. THORNTON: That is all nonsense. The profit on our suburban business pays a dividend on our ordinary stock and we are fighting to hang on to it. In other words, the profits in the passenger business depend on how full you can keep your trains. There is no business in which you can so generally fill your trains as suburban business. I go so far as to say that there is more profit in the suburban business than in the so-called trains de luxe. Those are an expense.

We are required, between certain hours, to carry workmen for two pence, a distance of eight or ten miles. The fare is four pence a round trip. The average haul would be six or seven miles one way.

As bearing on this question, I would like to make this statement: Profit in passenger business does not come from carrying a few passengers a long distance. It comes from carrying a great many passengers a short distance. That means filling your trains. In other words, the profit in the whole proposition comes from filling your trains. The complaint I have always had to make about American long distance trains is this: On most of the high-class trains you have a club car, where a man will drink something and have refreshments; then you have a sleeping car, in which he has his seat. Then, on the rear, the chances are you will have an observation car, and he may sit there. Then, there is probably a dining car on the train, and he has a seat there. In other words, you are hauling three or four seats for one man, and he can only sit in one seat at a time. In the suburban business, he has only one seat and he gets in there and you haul him from the point of origin to where he gets off. That is one reason why I think suburban business is more profitable than through.

MR. FISHER: That is, you think it should be, if properly handled.

MR. THORNTON: Yes.

MR. FISHER: Our American railway men do not look at it that way as a rule. Why is that?

MR. THORNTON: I do not know. You go to the Long Island, with which I was connected and happen to be familiar, and the great bulk of that is suburban business. They are anxious to increase it. I know they felt it profitable. Take, for instance, the suburban business of the Pennsylvania running into Broad Street. I think they would tell you they would not willingly surrender that business.

MR. FISHER: If they told you something else, what would you think?

MR. THORNTON: I would say they were either not telling the truth, or should get a new general manager.

What I mean to say is unquestionable: If you have a certain volume of suburban business, if it is not profitable, there is something wrong in the way it is handled.

MR. FISHER: The long distance traffic to which our American railroad men attach such great importance cannot by any possibility use the capacity of the rails; it cannot use a very large percentage of the capacity of the rails.

MR. THORNTON: Obviously not.

MR. FISHER: And I judge from what you say that you think it is a clear waste not to use the capacity of the rails as fully as you can.

MR. THORNTON: Certainly. You have to maintain your plant, and the nearer you can get maximum use out of that, the nearer you come.

MR. ARNOLD: They say that the through passenger and freight is the more profitable.

MR. THORNTON: I am not prepared to say that the suburban business is more profitable than the freight business at all, but I do say that the suburban is sufficiently profitable to justify its being fostered and looked after.

MR. FISHER: In connection with the freight and passenger business?

MR. THORNTON: Yes. If your facilities are not sufficient to handle both freight and suburban business, you had very much better increase those facilities and get the maximum profit out of your whole business.

MR. ARNOLD: That is what some of us believe. We believe that the right of way of the railroad should be used to the greatest capacity, even by perhaps double-decking. Some of us maintain that those rights of way should be utilized to the fullest capacity. If one deck is through passenger, let us have another for suburban. Steam

railroad men object to that. They say they do not want the suburban—it is a nuisance.

MR. THORNTON: For the last three years my experience has been largely with suburban business. I am perfectly convinced that suburban business is profitable. In fact, we would be delighted on the Great Eastern if we could do the same suburban business all day that we do from 9 to 10 o'clock. We would not have to worry about where the dividends were coming from. We are considering now the question of whether we should reduce our fares between 10 o'clock and 4 o'clock for the purpose of encouraging suburban business during the hours in which our suburban business is slack. In other words, to come more nearly getting the maximum use of the rails.

MR. BLOCK: For instance, the Illinois Central does the biggest suburban business in Chicago. They only haul their people in the morning and evening. There is nothing for them to do in the day time but haul empty trains.

MR. ARNOLD: In the talk downstairs I understood you to say that you thought you would be better off here if you had a through station instead of a stub, especially if that station could be connected through the heart of the city, so you could run through trains. Did I understand you correctly?

MR. THORNTON: Oh, yes, that is right. I should say that we should reduce our congestion at Liverpool Street—and it is very badly congested—at least fifty per cent, if not more, if we could run our trains through and find some outlet beyond our station. In other words, we would convert this immediately from a stub to a through station, if we could.

MR. ARNOLD: And I also inferred from what you said that you thought it would be an advantage to connect up with some other road at the other end of the city?

MR. FISHER: Provided that other road had equivalent traffic to justify it.

MR. THORNTON: I would do it anyway, provided our traffic was of a character that wanted to go beyond, or there was a prospect of building up business beyond.

MR. FISHER: If you could say now that your traffic would like to go beyond the present station, you would like to carry that traffic as far as they would like to go?

MR. THORNTON: I would like to get it away from here.

MR. FISHER: Even if that were not so, if you thought you could develop such a traffic, you would be anxious to do so?

MR. THORNTON: Exactly. We would like to get rid of the congestion, which is an adherent feature of every stub end station.

MR. CARTER: Would the additional business that you could do through that pay for the difference in cost of construction?

MR. THORNTON: You must remember that already there is in London a connecting link between other stations, but your question is, If that did not exist, should we do it?

MR. CARTER: With the conditions as they are.

MR. THORNTON: Unquestionably. While we have not gathered any figures, and I do not think it would be necessary to gather figures, I know perfectly well if we could electrify and connect with some of the Underground systems, it would be justified many times over.

MR. CARTER: That is not the question. If you had to construct a connection from this station to another one over the city, would the increase in business by making this a through station pay the interest on the cost of construction between the two stations?

MR. THORNTON: You must remember that we are speaking absolutely at cross purposes. There is not a great deal of traffic between different stations in London and this Liverpool Street Station, but there is a tremendous business in our suburban line, which wants to go to the city—the shopping district of the city.

MR. ARNOLD: That is it exactly.

MR. THORNTON: And that is what we are after. I do not think that interchange business, purely interchange of passenger business, between Liverpool Street and St. Pancras, would be sufficient to justify our building a tube or going to any expense in that connection. That may be a condition which is peculiar to London, and I question whether it would apply to Chicago, because Chicago is a great interchange point; it is the meeting point between the East and the West. People come into Chicago, and, in many instances, if they are going beyond, either east or west, they have to change cars at some other station. So, I should say that there was probably a much larger interchange of passengers between stations in Chicago than there would be in London, because a man who comes to London comes to London. Ordinarily he does not want to go anywhere else. London occupies a most unique position. Everything in England is London. London is the great financial and business mart of Europe. People, if they are going other places, their usual desire is to come to London and go away from London. Not many of them want to go from some place west of London to some place east, or, if they do, they break their journey a week.

MR. BENNETT: I think we have figured in Chicago on the same basis.

MR. CARTER: Practically the same thing exists in Chicago. Less than fifteen per cent of the people that come into Chicago desire to continue their journey without making a stay there.

MR. ARNOLD: I can corroborate that. My opinion is that there is not enough traffic between the stations to justify that expenditure; but that is not the question. The question is: What kind of traffic could be built up by through service? Suppose your station here shown on the map was connected up with the Paddington Station. Suppose that was originally connected with that and these sub-stations were not as they are, but were originally built up through the heart of London, even though independently owned, would you think of cutting up that section and moving these sub-stations back where they are?

MR. FISHER: If you didn't have the connection and could develop this traffic that you refer to—the local and interchange—would you hesitate to build it?

MR. THORNTON: Not a bit. In fact, the thing we want to do is to give our passengers continuous service into the shopping part of the city and the West End.

MR. ARNOLD: And the way of doing that is by connecting up with some of the already existing tubes?

MR. BENNETT: Does that not really mean that you are in favor of an overlapping service? The difficulty of co-operating one schedule with another road's schedule; but getting your passengers from the Southeastern to the West End, or vice versa from the Paddington up to the city would be obviously a benefit to both the passengers and the railroad. Doesn't it result in getting your passengers through, in the first place, and, in the second place overlapping the city for flexibility of service?

MR. THORNTON: There are a number of advantages which we might gain from such a condition. In the first place, we would relieve the congestion at Liverpool Street, which is well-nigh unbearable. In the second place, give better service to our patrons. In the next place, enable our passengers to go on with a continuous journey without changing to any point, substantially, that they wanted to reach, instead of forcing them to change here and take a taxi, bus, or the Underground to go to the shopping district. Of course, growing out of all that we would be in a better position to compete with the competitors—tram lines and buses.

MR. FISHER: And you would assume that that increased traffic which you would thus carry, that improved service which you would thus give, would receive its due reward in a financial way?

MR. THORNTON: Undoubtedly. I would not care to consider electrification if I could not make some such connection. I consider that is 50 per cent of its desirability—to put the passengers down in the city.

MR. FISHER: The opinions you are giving are, so far as you know, the opinions of your English staff here?

MR. THORNTON: I think Mr. Randall, who has grown up with this railway and has been with them ever since it amounted to anything, is of the same opinion. What do you say?

MR. RANDALL: I quite agree with all you have said about it, especially regarding local traffic. People are coming from all directions to Liverpool Street. Liverpool Street is not their objective. They want to get over into the city. If we could establish through service through to the West End, it would be a splendid thing. It would relieve our congestion here, because this would simply become a station of call.

MR. FISHER: You would not have to carry the trains empty over the rails?

MR. RANDALL: No, certainly not. I quite agree with everything Mr. Thornton says with regard to through running.

MR. THORNTON: I am inclined to think that, as far as the broad principles of this thing goes, what I have said would be the general opinion of most English railway officers.

MR. MCGANN: They are discussing suburban traffic rather than transcontinental through traffic?

MR. RANDALL: Yes.

MR. THORNTON: As a matter of fact, I don't know whether it could be done or not, but the thing that the Pennsylvania ought to have done when they went into New York was, instead of building their line underneath Manhattan Island and under the river, to build their own subway down Seventh Avenue and connect with the Long Island at Flatbush Avenue, and run their through trains down through the city, stop at the present station, then at Wall Street, and they would have skinned the passenger business to a finish. Their answer to that is that political conditions were such they could not have gotten any such franchise. It would have been worth untold millions to them if they could have done it.

MR. FISHER: On the basis of only a fair charge to the Pennsylvania for doing that, it would have been worth many more millions to the general public.

MR. RANDALL: I would like to say in regard to through running, you will find that when a man comes in on a bus he can keep straight through to the West End, and when he comes to Liverpool he has to change to a bus for the West End. It would be better in two ways—from a working point of view and the point of view of revenue.

MR. FISHER: Now, I understand that your road handles approximately fifty per cent of passengers and fifty per cent freight?

MR. RANDALL: Speaking broadly.

MR. FISHER: And you handle your due share of through traffic?

MR. RANDALL: Yes, main line traffic.

MR. FISHER: Do you see any interference or conflict of interests between the development of this suburban traffic in this through routing principle we have been talking about and the proper development of the freight and through line passenger traffic? Do you see any conflict?

MR. RANDALL: I think, when you get it mixed up with your main line or freight, it becomes a different thing.

MR. FISHER: I mean, do you see any conflict between the proper development of your main line and freight traffic and the proper development of this suburban traffic in the way we have been discussing?

MR. RANDALL: No. One is independent of the other to a great extent.

MR. THORNTON: Except the question of money.

MR. McGANN: Is there not a different principle underlying a freight business and through passenger business and a suburban business? In other words, we fall into the habit of having terminals at certain points where population rests. That was before we had a suburban business, and we have a freight business and passenger business that terminates there. That was all right. Now we have another phase of it, and that is the suburban business, where we want to go right through, and the question of a terminal or passenger business. That is, a freight terminal and passenger business should be eliminated when considering the other questions of the passenger business. Take the Pennsylvania road from Georgetown to the Navy Yard. There is no question about it, it is right in town; they drop passengers in the heart of town and take another load to the Navy Yard. If you had a passenger business and freight business, you would have an entirely different thing to consider.

MR. FISHER: Yes, but just a minute. The word you used was a little unfortunate, Mr. McGann. Not "eliminate," but see that the two do not conflict—co-ordinate them. There is no reason why you should not develop your freight, passenger and suburban, and develop the through traffic that wants to go through without hurting any.

MR. MCGANN: I had in mind the question of Mr. Carter. On the other hand, you introduce the other feature, which is a freight business and an entirely different proposition.

MR. FISHER: Oh, yes, the only point is, I want to bring out this: That there is no conflict if you develop the suburban business in a certain way. That does not mean you are to conflict with your through line and freight at all. It merely means you are going to get the highest efficiency out all through. If you reach a point in the development of your road where you have not capacity to take care of all three classes, then, of course, the only thing to do is to cut down on some one class or enlarge your facilities.

MR. MCGANN: If you had your extensions, you were not going to count on changing your freight terminals.

MR. FISHER: Right.

MR. MCGANN: That is what I wanted to emphasize.

MR. THORNTON: In other words, it comes down to this: If you are building a railway which is to handle exclusively freight, that is one kind of a railway. If you are building a railway which is to handle exclusively passengers, that is another kind.

MR. FISHER: Yes.

MR. THORNTON: If you are building a railway and must provide facilities to handle suburban passenger business, through passenger business and freight business, that requires a different kind of a railway; but there is not any reason, assuming that you have the money and can provide the facilities, why you cannot build a railroad which will handle all three with perfect satisfaction.

MR. FISHER: Don't you go further than that? Isn't it exceedingly probable, if not almost certain, speaking generally, that the most profitable and practicable road is the one which does handle all three?

MR. THORNTON: To be sure. The man who can sell the most goods is the one who can make the most money, and the railroad which can handle the most business, maximum of business, and passengers, is the one which will be the most profitable.

MR. RANDALL: Freight traffic travels at night—a good deal of it—and keeps your road busy.

MR. HOOKER: To what extent would you say that extra tracks would be, in general, required?

MR. THORNTON: That is such a broad question it is almost impossible to answer it without some specifications. It depends entirely on the volume of each kind of business. I don't think I can answer so broad a question as that in a way that would convey any intelligence.

MR. FISHER: You go on the assumption that if more tracks were needed they would be provided?

MR. THORNTON: Yes, assuming that they were not terrifically expensive. You know how much your business is and how much the additional tracks would cost. Anybody can strike a balance between the two. In the laying out of any railway the tracks should be laid out so they are interchangeable. For instance, on the Long Island Railroad we had a six-track electrical system. Three of those were used in one direction and three the other. They were all interchangeable. You could switch a train from one to the other. It is a great mistake to build a railway and absolutely tie yourself up to certain character of traffic on certain tracks. As nearly as possible you want to make them interchangeable.

MR. FISHER: That is all consistent with the theory of using special tracks for special traffic as a general rule?

MR. THORNTON: Yes, and if you are confronted with an emergency, you have something up your sleeve.

MR. ARNOLD: That is all. You want to be in the position so that you can get out of an emergency.

MR. THORNTON: If you have three servants in your house, you want them to do any kind of work. The butler is the butler, but if you want him to do something else, he does it.

MR. CARTER: Of course, where you have double tracks it is different.

MR. THORNTON: I operated a railroad that had a very heavy freight business, double-track railway, and we used to reverse the direction of trains; the freight on one track would be passed by a passenger in the same direction on the other track.

MR. ARNOLD: Most rights of way in the City of Chicago are sufficient—more than two tracks, some of them four, some six, and some more. It seems to me that the instant that these rights of way will accommodate tracks, the rails should be utilized to the full capacity; kept as hot as possible.

MR. CARTER: Always.

MR. ARNOLD: When you reach the point where there are two or four, or six or eight rails, and they will not take the traffic, I think the City of Chicago would be justified in allowing you to lay another deck to serve the public.

MR. THORNTON: I think, of course, whatever the rights of the city may be, it ought to look with favor upon anything which increases the use of the rights of way of railways.

MR. ARNOLD: In other words, utilize the investment which is there to the greatest extent possible, in order that the service may be at the maximum point and the fixed charges at the lowest.

MR. THORNTON: I don't know whether this would work or not, but I have always thought it would. I have always thought that if all the terminals of the various railways in Chicago were under the direction of one individual, one organization; if the railroads would say, "Now, the Pennsylvania will cut its line off here, the Northwestern there—in other words, draw a line around Chicago, and everything inside that line would be operated by a terminals company with one manager, I think a lot of friction would be eliminated.

MR. ARNOLD: There is no doubt about that. The great difficulty would be to get that situation. Any man having his own property does not want to give it up unless he thinks he is getting something.

MR. CARTER: The question of government ownership, in which there would be a great many of those things corrected, and the duplication of service, trains leaving the city all at the same hour, all for the same destination, and most of them partially loaded—

MR. FISHER: It is not necessarily a question of government ownership at all. As we have seen at Manchester and Liverpool, that is not the question at all. They have at Manchester a large enterprise, most efficiently conducted, which is not governmental at all in any such sense as we use the word.

I think that Mr. Thornton's thought is merely that there might be an agency which would be only subject to that general regulation which we have over all railroad enterprises, but which would be a co-operative organization among the railroads.

MR. CARTER: If you could get them to do it.

MR. THORNTON: I am perfectly convinced that government ownership and operation in any country is a hideous failure.

MR. CARTER: Sure.

MR. THORNTON: I am convinced that government ownership in America would result in generally inefficient service and disaster

of all kinds. There is one country in Europe which has operated its railroads from the time they were built, and it has just about come to the conclusion that, due to the political aspect of it, government operation is a fizzle. The only government which I know of that operates its railways successfully is the German government, and they are operated successfully because they are operated as a fundamental part of the military establishment. They do not care a damn for the public; they run the thing to suit themselves. The only thing that I know that any government has ever operated successfully is the post. How well the post might be done by a private corporation we do not know, because no private corporation has ever had a crack at it. I do know, if you want an example of what government ownership will do, I will simply advise you to use English telephones a few times.

MR. ARNOLD: I don't think there is a man here advocating government ownership. You won't step on anybody's toes.

MR. FISHER: What is that, Mr. Arnold?

MR. ARNOLD: I knew I would get a rise there.

MR. FISHER: The only thing I object to is your speaking for some of the rest of us.

MR. THORNTON: The point is that we believe, as we just stated, that some co-operative arrangement, as Mr. Fisher pointed out, would get us some result in Chicago as we do not now have—namely, get better service in all directions, not only suburban, but freight and through passenger service—and we would get the investment that is now there utilized to much better advantage to the public as well as the railroads themselves. What we are fundamentally after is the co-operative spirit among the railroads—not government ownership.

MR. BLOCK: Government supervision.

MR. FISHER: We have a certain amount of government supervision now, but we want more co-operation.

MR. RANDALL: Instead of running six trains to the same point at the same time, half full, you would run three full?

MR. FISHER: Don't you think, whether we are going to have government ownership or not depends very largely on the intelligence with which the existing railroad interests demonstrate that they can meet just such problems as we are discussing here now. That is to say, if it is as clear as you think it is that there is a great waste in the situation in Chicago, where 26 railroads come in, operating different railroads, where there is great improvement in service to be

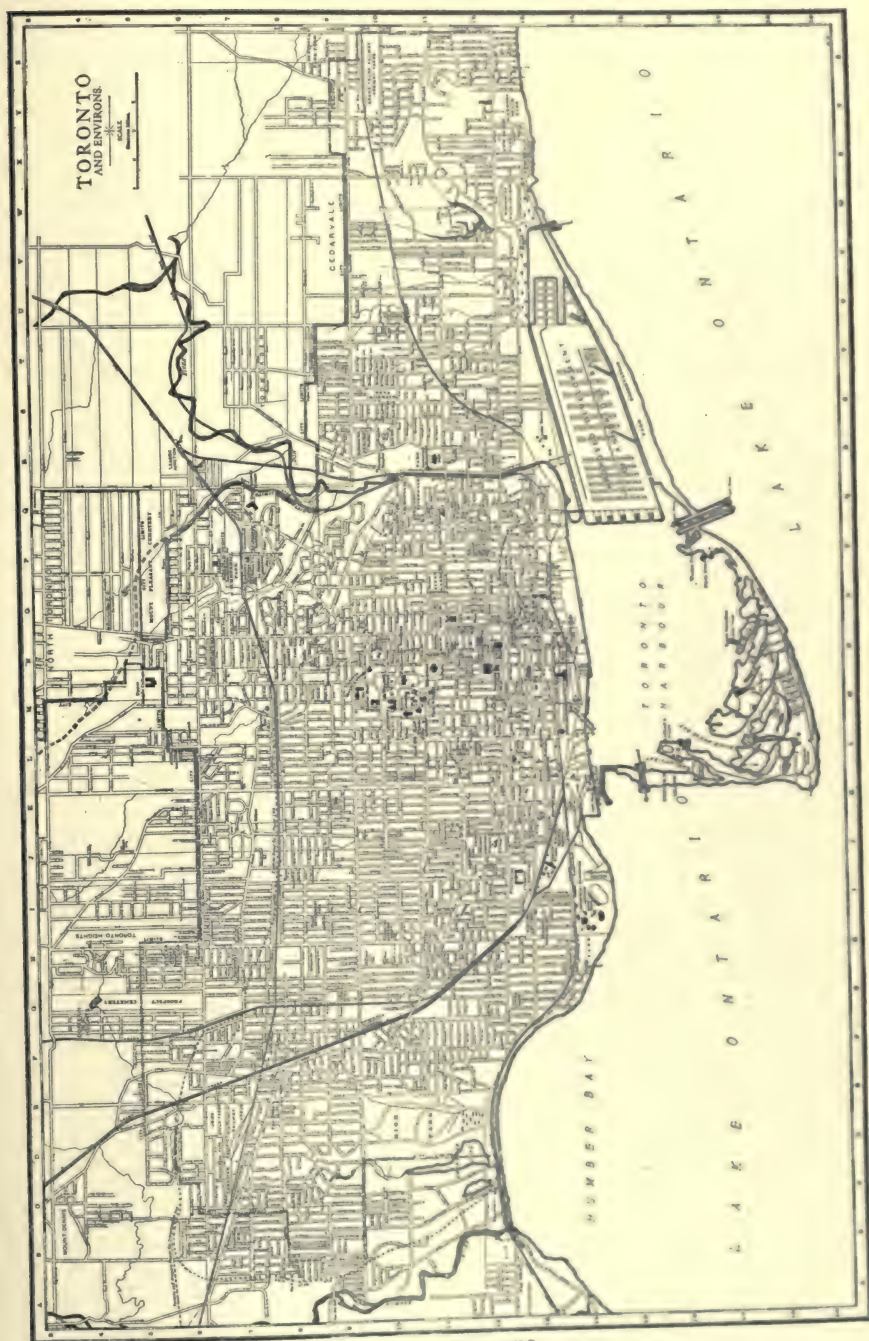
gained by co-operating, if selfish interests or want of intelligence fails to produce that, we are more likely to have government ownership?

MR. THORNTON: I think that is true. As a matter of fact, the present situation which seems to confront the railways in America was brought about, in my judgment, by the lack of foresight on the part of the previous generation of managers and directors.

MR. FISHER: Of railways?

MR. THORNTON: Of railways. There were abuses of all kinds. Unquestionably, if the railway managers of America had realized where they were headed, and corrected it of their own volition, it would not have been done for them.

MR. HOOKER: The plan that you recommended was officially recommended for Boston five years ago for the freight business.



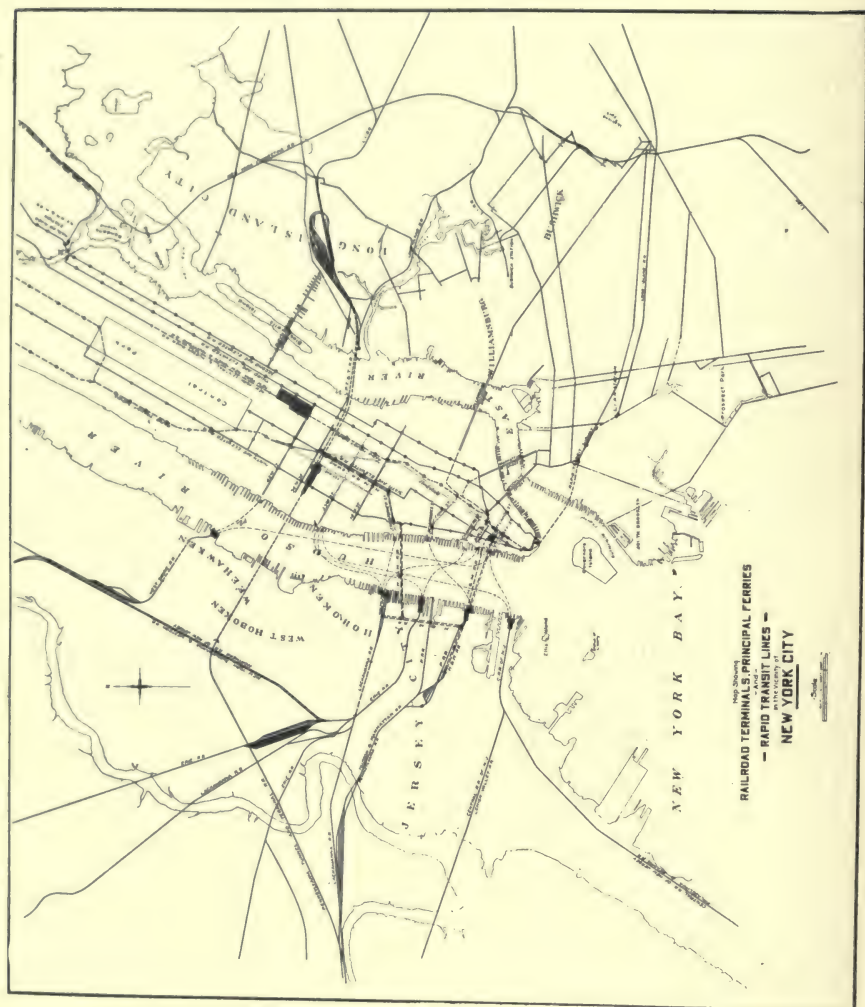
MAP OF TORONTO.



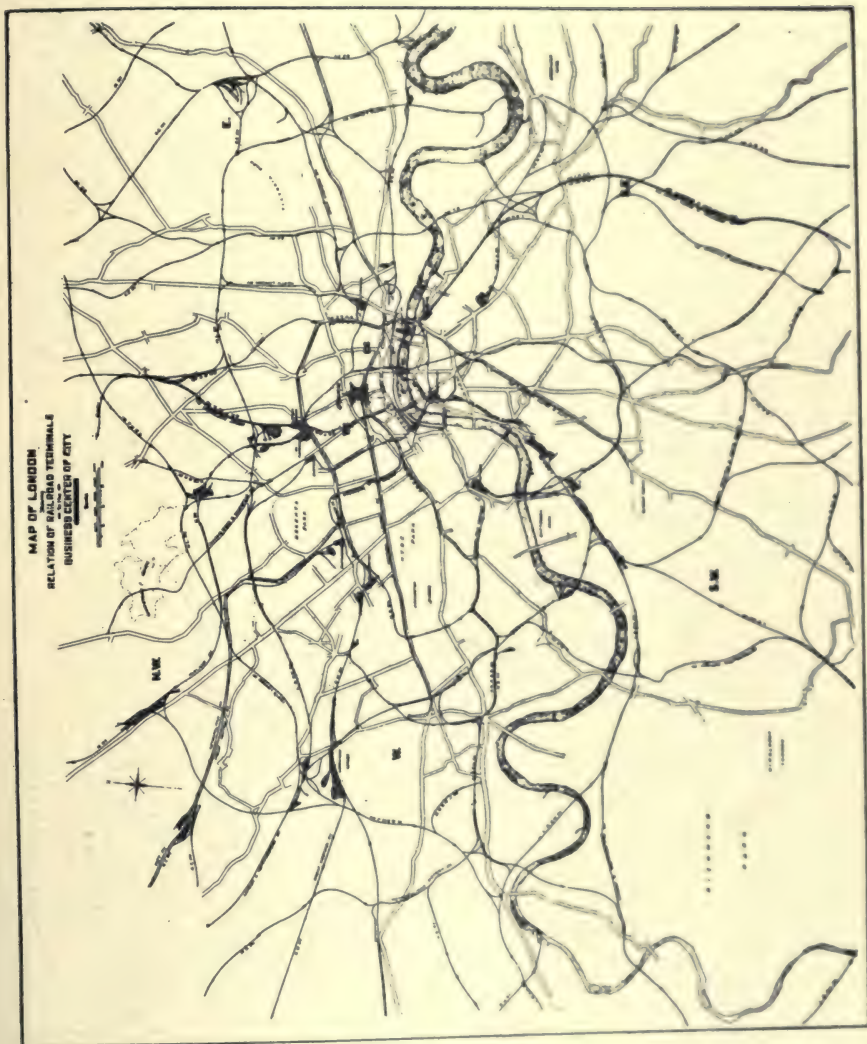
MAP OF MONTREAL.



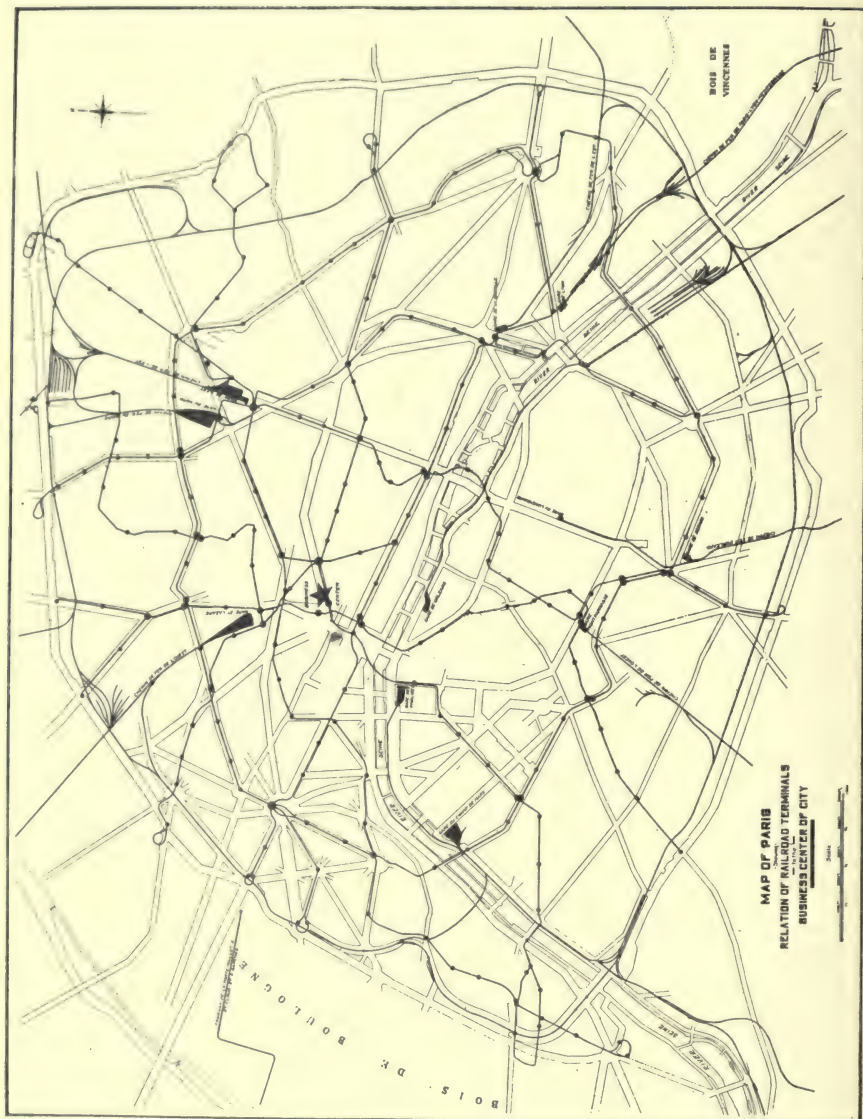
MAP OF BOSTON.



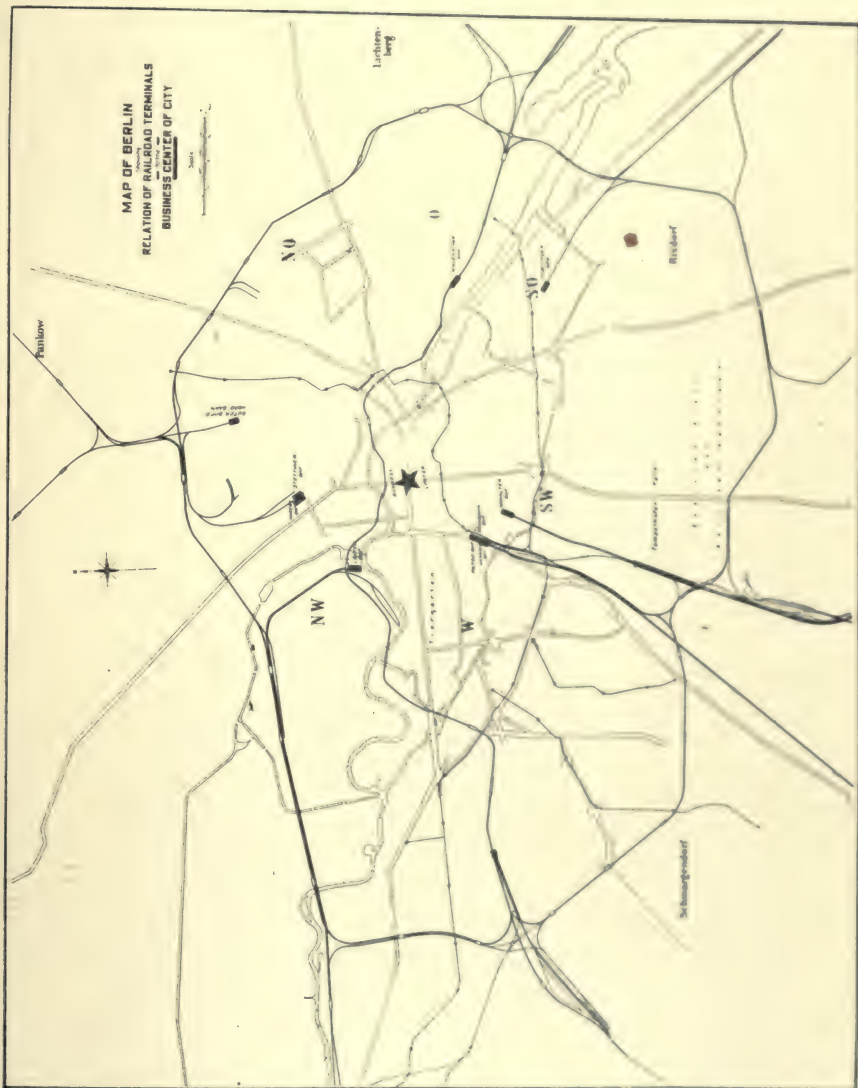
MAP OF NEW YORK CITY.



MAP OF LONDON.



MAP OF PARIS.



MAP OF BERLIN.



APPENDIX "B"
STATISTICS

APPENDIX "B"

STATISTICS

Table No. 1

PASSENGER TERMINALS

PRINCIPAL AMERICAN CITIES

CITY—	AVERAGE NUMBER of TRAINS DAILY			No. of TRAINS Busiest Hour	AVERAGE NUMBER OF PASSENGERS DAILY		
	Thru.	Sub.	Total		Thru.	Sub.	Total
BOSTON							
South Sta.....	332	511	843	87			125,000
North Sta.....	119	458	577	61	22,000	66,000	88,000
NEW YORK							
Grand Cent...	198	223	421	56	19,123	46,512	65,725
Penna. R. R...	146	254	400	40	12,241	38,094	50,335
PHILADELPHIA							
Penna. R. R...	352	217	569	51	34,381	20,380	54,761
WASHINGTON							
Union	252		252	20	13,110		13,110
PITTSBURGH							
Penna. R. R...	185	301	486	45	3,712	35,854	39,566
ST. LOUIS							
Union	270	80	350	64	20,000	15,000	35,000
KANSAS CITY							
Union	214		214	29	28,000		28,000
CHICAGO							
Northwestern..	121	189	310	38	16,402	33,046	49,448
Union	163	117	280	30	19,274	14,778	34,052
La Salle	76	117	193	25	9,801	25,455	35,256
Dearborn	102	47	149	23	8,241	8,643	16,884
Grand Cent....	30	4	34	6	3,091	470	3,561
Central	85		85	11	12,729		12,729
TOTAL—							
CHICAGO ...	577	474	1,051	133	69,538	82,392	151,930
I. C. SUB....		293	293	35		41,217	41,217
GRAND TOTAL—							
CHICAGO ...	577	767	1,344	168	69,538	123,609	193,147

Table No. 2

CHICAGO PASSENGER TERMINALS TRAINS

STATION	RAILROAD	Average Number per Day		THROUGH		SUBURBAN		TOTAL		TOTAL Arr. & Dep.
		Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	
NORTHWESTERN	C. & N. W. Ry.....	61	60	95	94	156	154	310		
	P. F. W. & C. Ry.....	17	16	11	11	28	27	55		
	P. C. C. & St. L. Ry.....	10	10	0	0	10	10	20		
	C. M. & St. P. Ry.....	28	29	16	17	44	46	90		
	C. B. & O. R. R.....	16	15	31	31	47	46	93		
UNION	C. & A. R. R.....	11	11	0	0	11	11	22		
	TOTAL.....	82	81	58	59	140	140	280		
	L. S. & M. S. Ry.....	17	17	20	20	37	37	74		
	C. I. & S. R. R.....	3	3	0	0	3	3	6		
	N. Y. C. & S. L. R. R.....	3	3	0	0	3	3	6		
LA SALLE	C. R. I. & P. Ry.....	15	15	39	38	54	53	107		
	TOTAL.....	38	38	59	58	97	96	193		
	A. T. & S. F. Ry.....	8	8	0	0	8	8	16		
	C. & O. Ry.....	3	3	0	0	3	3	6		
	C. & E. I. R. R.....	11	11	3	3	14	14	28		
DEARBORN	C. I. & L. Ry.....	8	8	0	0	8	8	16		
	C. & W. I. R. R.....	0	0	11	12	11	12	23		
	C. & E. R. R.....	6	5	0	0	6	5	11		
	G. T. W. Ry.....	7	7	4	4	11	11	22		
	Wabash R. R.....	9	8	5	5	14	13	27		
	TOTAL.....	52	50	23	24	75	74	149		

CHICAGO PASSENGER TERMINAL TRAINS—Continued

STATION	RAILROAD	Average Number per Day		THROUGH		SUBURBAN		TOTAL		TOTAL Arr. & Dep.
		Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	
GRAND CENTRAL	B. & O. R. R.	6	6	0	0	0	0	6	6	12
	B. & O. C. T. R. R.	0	0	2	2	2	2	2	2	4
	C. G. W. R. R.	4	4	0	0	0	0	4	4	8
	P. M. R. R.	6	6	0	0	0	0	6	6	12
	TOTAL	16	16	2	2	2	2	18	18	36
CENTRAL	C. C. & St. L. Ry.	4	4	0	0	0	0	4	4	8
	M. C. R. R.	15	15	0	0	0	0	15	15	30
	M. St. P. & S. S. M. Ry.	7	7	0	0	0	0	7	7	14
	I. C. R. R.	16	17	0	0	0	0	16	17	33
	TOTAL	42	43	0	0	0	0	42	43	85
RANDOLPH	I. C. Suburban	0	0	146	145	146	145	146	145	291
TOTAL ALL STATIONS		291	288	383	382	383	382	674	670	1344

CHICAGO PASSENGER TERMINALS—PASSENGERS

Table No. 3

STATION	RAILROAD	Average Number per Day	THROUGH	% of Total	SUB-URBAN	% of Total	TOTAL
NORTHWESTERN.....	C. & N. W. Ry.....	16,402	33.2	66.8	33,038	66.8	49,440
UNION.....	P. F. W. & C. Ry.....	2,686	73.0	27.0	995	27.0	3,681
	P. C. C. & St. L. Ry.....	2,052	100.0	0	0	0	2,052
	C. M. & St. P. Ry.....	7,535	71.2	28.8	3,043	28.8	10,578
	C. B. & Q. R. R.....	4,340	26.3	73.7	12,125	73.7	16,465
	C. & A. R. R.....	2,631	100.0	0	0	0	2,631
	TOTAL.....	19,244	54.3	45.7	16,163	45.7	35,407
LA SALLE.....	L. S. & M. S. Ry.....	4,174	32.1	67.9	8,828	67.9	13,002
	C. I. & S. R. R.....	553	100.0	0	0	0	553
	N. Y. C. & St. L. R. R.....	694	100.0	0	0	0	694
	C. R. I. & P. Ry.....	4,380	20.8	79.2	16,627	79.2	21,007
	TOTAL.....	9,801	27.8	72.2	25,455	72.2	35,256
DEARBORN.....	A. T. & S. F. Ry.....	1,103	100.0	0	0	0	1,103
	C. & O. R. R.....	455	100.0	0	0	0	455
	C. & E. J. R. R.....	3,345	81.7	18.3	750	18.3	4,095
	C. I. & L. Ry.....	862	100.0	0	0	0	862
	C. & W. I. R. R.....	0	0	100.0	4,913	100.0	4,913
	C. & E. R. R.....	328	100.0	0	0	0	328
	G. T. W. Ry.....	1,318	36.0	64.0	2,345	64.0	3,663
	Wabash R. R.	830	56.6	43.4	635	43.4	1,465
	TOTAL.....	8,241	48.8	51.2	8,643	51.2	16,884
GRAND CENTRAL.....	B. & O. R. R.....	560	100.0	0	0	0	560
	B. & O. C. T. R. R.....	0	0	100.0	470	100.0	470
	C. G. W. R. R.....	497	100.0	0	0	0	497
	P. M. R. R.....	2,034	100.0	0	0	0	2,034
	TOTAL.....	3,091	86.8	13.2	470	13.2	3,561
CENTRAL.....	C. C. & St. L. Ry.....	1,675	100.0	0	0	0	1,675
	M. C. R. R.....	5,400	100.0	0	0	0	5,400
	M. St. P. & S. S. M. Ry.....	814	100.0	0	0	0	814
	I. C. R. R.....	4,840	100.0	0	0	0	4,840
	TOTAL.....	12,729	100.0	0	0	0	12,729
RANDOLPH.....	I. C. Suburban	0	0	100.0	41,062	100.0	41,062
TOTAL ALL STATIONS.....		69,508	35.7	64.3	124,839	64.3	194,339

Table No. 4.

CHICAGO PASSENGER TERMINALS—MAIL

Average Number of Sacks Daily

STATION	RAILROAD	Through Trains	Suburban Trains	TOTAL
NORTHWESTERN.....	C. & N. W. Ry.....	9,178	1,009	10,187
UNION.....	P. F. W. & C. Ry.....	8,060	25	8,085
	P. C. C. & St. L. Ry.....	1,580	0	1,580
	C. M. & St. P. Ry.....	15,084	252	15,336
	C. B. & Q. R. R.....	19,425	25	19,450
	C. & A. R. R.....	844	0	844
	TOTAL.....	44,993	302	45,295
LA SALLE.....	L. S. & M. S. Ry.....	22,650	450	23,100
	C. I. & S. R. R.....	40	0	40
	N. Y. C. & St. L. R. R.....	220	0	220
	C. R. I. & P. Ry.....	2,135	79	2,214
	TOTAL.....	25,045	529	25,574
DEARBORN.....	A. T. & S. F. Ry.....	2,618	0	2,618
	C. & O. R. R.....	47	0	47
	C. & E. I. R. R.....	8,251	18	8,269
	C. I. & L. Ry.....	790	0	790
	C. & W. I. R. R.....	0	0	0
	C. & E. R. R.....	750	0	750
	G. T. W. Ry.....	1,592	0	1,592
	Wabash R. R.....	473	11	484
	TOTAL.....	14,521	29	14,550
GRAND CENTRAL.....	B. & O. R. R.....	785	0	785
	B. & O. C. T. R. R.....	0	0	0
	C. G. W. R. R.....	325	0	325
	P. M. R. R.....	796	0	796
	TOTAL.....	1,906	0	1,906
CENTRAL.....	C. C. C. & St. L. Ry.....	1,365	0	1,365
	M. C. R. R.....	1,497	0	1,497
	M. St. P. & S. S. M. Ry....	1,016	0	1,016
	I. C. R. R.....	3,299	0	3,299
	TOTAL.....	7,177	0	7,177
RANDOLPH.....	I. C. R. R. Suburban.....	0	465	465
TOTAL ALL STATIONS.....		102,820	2,334	105,154

Table No. 5

CHICAGO PASSENGER TERMINALS—BAGGAGE

Average Number of Pieces Daily

STATION	RAILROAD	Through Trains	Suburban Trains	TOTAL
NORTHWESTERN.....	C. & N. W. Ry.....	4,928	976	5,904
UNION.....	P. F. W. & C. Ry.....	827	12	839
	P. C. C. & St. L. Ry.....	760	0	760
	C. M. & St. P. Ry.....	2,141	119	2,260
	C. B. & Q. R. R.....	2,480	185	2,665
	C. & A. R. R.....	809	0	809
	TOTAL.....	7,017	316	7,333
LA SALLE.....	L. S. & M. S. Ry.....	1,306	25	1,331
	C. I. & S. R. R.....	56	0	56
	N. Y. C. & St. L. R. R.....	375	0	375
	C. R. I. & P. Ry.....	993	40	1,033
	TOTAL.....	2,730	65	2,795
DEARBORN.....	A. T. & S. F. Ry.....	550	0	550
	C. & O. R. R.....	73	0	73
	C. & E. I. R. R.....	688	0	688
	C. I. & L. Ry.....	253	0	253
	C. & W. I. R. R.....	0	8	8
	C. & E. R. R.....	138	0	138
	G. T. W. Ry.....	902	0	902
	Wabash R. R.....	511	0	511
	TOTAL.....	3,115	8	3,123
GRAND CENTRAL.....	B. & O. R. R.....	293	0	293
	B. & O. C. T. R. R.....	0	12	12
	C. G. W. R. R.....	149	0	149
	P. M. R. R.....	818	0	818
	TOTAL.....	1,260	12	1,272
CENTRAL.....	C. C. C. & St. L. Ry.....	296	0	296
	M. C. R. R.....	1,157	0	1,157
	M. St. P. & S. S. M. Ry....	274	0	274
	I. C. R. R.....	884	0	884
	TOTAL.....	2,611	0	2,611
RANDOLPH.....	I. C. Suburban	0	21	21
TOTAL ALL STATIONS.....		21,661	1,398	23,059

Table No. 6

CHICAGO PASSENGER TERMINALS—EXPRESS

Average Number of Tons per Day

STATION	RAILROAD	Through Trains	Suburban Trains	TOTAL
NORTHWESTERN.....	C. & N. W. Ry.....	311	46	357
UNION.....	P. F. W. & C. Ry.....	134	9	143
	P. C. C. & St. L. Ry.....	70	0	70
	C. M. & St. P. Ry.....	391	21	412
	C. B. & O. R. R.....	167	18	185
	C. & A. R. R.....	25	0	25
	TOTAL.....	787	48	835
LA SALLE.....	L. S. & M. S. Ry.....	191	4	195
	C. I. & S. R. R.....	11	0	11
	N. Y. C. & St. L. R. R.....	11	0	11
	C. R. I. & P. Ry.....	141	12	153
	TOTAL.....	354	16	370
DEARBORN.....	A. T. & S. F. Ry.....	29	0	29
	C. & O. R. R.....	16	0	16
	C. & E. I. R. R.....	80	1	81
	C. I. & L. Ry.....	42	0	42
	C. & W. I. R. R.....	0	10	10
	C. & E. R. R.....	112	0	112
	G. T. W. Ry.....	34	0	34
	Wabash R. R.	51	1	52
	TOTAL.....	364	12	376
GRAND CENTRAL.....	B. & O. R. R.....	51	0	51
	B. & O. C. T. R. R.....	0	2	2
	C. G. W. R. R.....	15	0	15
	P. M. R. R.....	67	0	67
	TOTAL.....	133	2	135
CENTRAL.....	C. C. C. & St. L. Ry.....	14	0	14
	M. C. R. R.....	221	0	221
	M. St. P. & S. S. M. Ry...	14	0	14
	I. C. R. R.....	121	0	121
	TOTAL.....	370	0	370
RANDOLPH.....	I. C. Suburban	0	9	9
TOTAL FOR ALL STATIONS.....		2,319	133	2,452

Table No. 7

CHICAGO PASSENGER TERMINALS

STATION	—TRAINS—		PASSENGERS		—BAGGAGE—		—MAIL—		—EXPRESS—	
	Number	% of	Number	% of	Pieces	% of	Sacks	% of	Tons	% of
	Daily	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Total
NORTHWESTERN	310	29.4	49,440	32.3	5,904	25.6	10,187	9.7	357	14.6
UNION	280	26.6	35,407	23.1	7,333	31.8	45,295	43.3	835	34.2
LA SALLE	193	18.3	35,256	23.0	2,795	12.1	25,574	24.4	370	15.1
DEARBORN	149	14.2	16,884	11.0	3,123	13.6	14,550	13.9	176	15.4
GRAND CENTRAL	36	3.4	3,561	2.3	1,272	5.6	1,906	1.8	135	5.6
CENTRAL	85	8.1	12,729	8.3	2,611	11.3	7,177	6.9	370	15.1
TOTALS	1,053	100%	153,277	100%	23,038	100%	104,689	100%	2,443	100%
ILL. CENT. SUBURBAN	291		41,062		21		465		9	

Note: Figures based on business and train schedules of July, 1913.

CHICAGO FREIGHT TERMINALS

Table No. 8

RAILROAD	INBOUND		OUTBOUND		TOTAL	
	Cars	Tons	Cars	Tons	Cars	Tons
A. T. & S. F. Ry.....	15	101	148	1,053	163	1,154
B. & O. R. R.....	54	430	56	482	110	912
B. & O. C. T. R. R.....	40	250	48	406	88	656
C. & A. R. R.....	24	150	67	330	91	480
C. & E. I. R. R.....	40	191	110	712	150	903
C. B. & Q. R. R.....	71	681	176	1,009	247	1,690
C. G. W. R. R.....	18	150	50	300	68	450
C. I. & L. Ry.....	45	206	45	217	90	423
C. M. & St. P. Ry.....	120	553	191	832	311	1,385
C. & N. W. Ry.....	236	1,245	255	1,554	491	2,799
C. R. I. & P. Ry.....	51	333	115	668	166	1,001
C. W. P. & S. Ry.....	2	25	1	10	3	35
C. & E. R. R.....	100	800	55	325	155	1,125
G. T. W. Ry.....	74	637	48	305	122	942
I. C. R. R.....	145	1,020	321	2,092	466	3,112
I. N. Ry.....	0	0	31	223	31	223
L. S. & M. S. Ry.....	143	1,115	138	872	281	1,987
M. C. R. R.....	95	670	110	812	205	1,482
M. St. P. & S. S. M. Ry..	28	158	54	285	82	443
N. Y. C. & St. L. R. R...	50	300	19	103	69	403
P. M. R. R.....	20	110	23	115	43	225
P. C. C. & St. L. Ry.....	72	600	70	576	142	1,176
P. F. W. & C. Ry.....	83	584	86	697	169	1,281
Wabash R. R.....	65	500	83	550	148	1,050
TOTALS.....	1,591	10,809	2,300	14,528	3,891	25,337

NOTE: Figures based on business of March, 1913.

CHICAGO FREIGHT TERMINALS

Table No. 9

DAILY HOUSE FREIGHT BUSINESS

In Territory East of Desplaines Street, from 18th Street to Chicago Avenue

RAILROAD	INBOUND		OUTBOUND		TOTAL		Car Cap'y of House Tracks
	Cars	Tons	Cars	Tons	Cars	Tons	
A. T. & S. F. Ry.....	15	101	65	450	80	551	118
B. & O. R. R.....	54	430	56	482	110	912	116
C. & A. R. R.....	24	150	67	330	91	480	141
C. & E. I. R. R.....	40	191	110	712	150	903	163
C. B. & Q. R. R.....	71	681	171	973	242	1,654	273
C. G. W. R. R.....	18	150	50	300	68	450	46
C. I. & L. Ry.....	45	206	45	217	90	423	39
C. M. & St. P. Ry.....	120	553	201	832	311	1,385	237
C. & N. W. Ry.....	128	691	253	1,545	381	2,236	364
C. R. I. & P. Ry.....	45	300	100	550	145	850	200
C. & E. R. R.....	100	800	55	325	155	1,125	80
G. T. W. Ry.....	74	637	48	305	122	942	80
I. C. R. R.....	90	515	230	1,400	320	1,915	272
L. S. & M. S. Ry.....	123	1,020	130	780	253	1,800	147
M. C. R. R.....	95	670	110	812	205	1,482	143
M. St. P. & S. S. M. Ry..	28	158	54	285	82	443	60
N. Y. C. & St. L. R. R...	50	300	19	103	69	403	54
P. M. R. R.....	20	110	23	115	43	225	29
P. C. C. & St. L. Ry....	69	589	35	347	104	936	87
P. F. W. & C. Ry.....	63	520	73	662	136	1,182	210
Wabash R. R.....	65	500	83	550	148	1,050	171
TOTALS.....	1,337	9,272	1,978	12,075	3,305	21,347	3,030

NOTE: Figures based on business of March, 1913.

Table No. 10
CHICAGO FREIGHT TERMINALS
DAILY HOUSE FREIGHT BUSINESS

In Territory East of Desplaines Street from 18th Street to Chicago Avenue

DISTRICT	INBOUND		OUTBOUND		TOTAL		Car Cap'y of House Tracks
	Cars	Tons	Cars	Tons	Cars	Tons	
North of Chicago River, East of North Branch.							
B. & O. R. Ry.....	3	30	4	32	7	62	8
C. M. & St. P. Ry.....	10	67	7	66	17	133	48
C. & N. W. Ry.....	46	222	83	505	129	727	86
TOTALS.....	59	319	94	603	153	922	142

Desplaines St. to River Madison to Chicago Avenue.							
C. M. & St. P. Ry.....	110	486	174	706	284	1,192	182
C. & N. W. Ry.....	82	469	100	590	182	1,059	122
P. C. C. & St. L. Ry.....	69	589	35	347	104	936	87
TOTALS.....	261	1,544	309	1,643	570	3,187	391

Desplaines Street to River, Madison to 12th Street.							
C. & A. R. R.....	24	150	67	330	91	480	141
C. B. & Q. R. R.....	64	454	162	856	226	1,310	207
P. F. W. & C. Ry.....	63	520	46	432	109	952	157
TOTALS.....	151	1,124	275	1,618	426	2,742	505

12th Street to 18th Street.							
C. B. & Q. R. R.....	7	227	9	117	16	344	66
C. M. & St. P. Ry.....	0	0	10	60	10	60	7
C. & N. W. Ry.....	0	0	70	450	70	450	156
P. F. W. & C. Ry.....	0	0	27	230	27	230	53
M. St. P. & S. S. M. Ry..	28	158	54	285	82	443	179
TOTALS.....	35	385	170	1,122	205	1,527	461

Harrison to 18th Street.							
A. T. & S. F. Ry.....	15	101	65	450	80	551	118
B. & O. R. R.....	51	400	52	450	103	850	108
C. & E. I. R. R.....	40	191	110	712	150	903	163
C. G. W. R. R.....	18	150	50	300	68	450	46
C. I. & L. Ry.....	45	206	45	217	90	423	39
C. R. I. & P. Ry.....	45	300	100	550	145	850	200
C. & E. R. R.....	100	800	55	325	155	1,125	80
G. T. W. Ry.....	74	637	48	305	122	942	80
L. S. & M. S. Ry.....	123	1,020	130	780	253	1,800	147
N. Y. C. & St. L. R. R..	50	300	19	103	69	403	54
P. M. R. R.....	20	110	23	115	43	225	29
Wabash R. R.....	65	500	83	550	148	1,050	171
TOTALS.....	646	4,715	780	4,857	1,426	9,572	1,235

Lake Front.							
I. C. R. R.....	90	515	230	1,400	320	1,915	272
M. C. R. R.....	95	670	110	812	205	1,482	143
TOTALS.....	185	1,185	340	2,212	525	3,397	415

TOTALS—BY DISTRICTS

North of Chicago River, East of North Branch..	59	319	94	603	153	922	142
Desplaines Street to River, Madison to Chicago Ave.	261	1,544	309	1,643	570	3,187	391
Desplaines Street to River, Madison to 12th Street.	151	1,124	275	1,618	426	2,742	505
Desplaines Street to River, 12th Street to 18th St..	35	385	170	1,122	205	1,527	461
East of Chicago River, Harrison to 18th Street.	646	4,715	780	4,857	1,426	9,572	1,235
Lake Front	185	1,185	340	2,212	525	3,397	415
GRAND TOTALS...	1,337	9,272	1,968	12,075	3,305	21,347	3,149

NOTE: Figures based on business of March, 1913.

Table No. 11

CHICAGO FREIGHT TERMINALS

TOTAL TEAM TRACK FREIGHT DAILY

RAILROAD	INBOUND		OUTBOUND		TOTAL	
	Cars	Tons	Cars	Tons	Cars	Tons
A. T. & S. F. Ry.....	12	152	5	57	17	209
B. & O. R. R.....	52	1,065	8	130	60	1,195
B. & O. C. T. R. R.....	70	2,296	8	153	78	2,449
Belt Railway	68	1,460	10	171	78	1,631
C. & A. R. R.....	9	14	9	19	18	33
C. & E. I. R. R.....	23	491	8	118	31	609
C. & W. I. R. R.....	42	1,138	13	239	55	1,377
C. B. & Q. R. R.....	42	720	17	225	59	945
C. G. W. R. R.....	6	120	5	150	11	270
C. I. & L. Ry.....	15	300	3	60	18	360
C. J. Ry.....	32	675	14	225	46	900
C. M. & St. P. Ry.....	203	4,015	55	1,015	258	5,030
C. & N. W. Ry.....	280	8,263	51	996	331	9,259
C. R. I. & P. Ry.....	81	2,945	20	421	101	3,366
C. & E. R. R.....	10	140	5	65	15	205
G. T. W. Ry.....	16	272	16	190	32	462
I. C. R. R.....	84	1,618	37	685	121	2,303
I. N. Ry.....	5	150		1	5	151
L. S. & M. S. Ry.....	64	1,353	33	1,095	97	2,448
M. C. R. R.....	31	500	16	230	47	730
M. St. P. & S. S. M. Ry.....	12	200	1	14	13	214
N. Y. C. & St. L. R. R.....	5	65	11	90	16	155
P. M. R. R.....	12	200	2	27	14	227
P. C. C. & St. L. Ry.....	69	1,715	15	270	84	1,985
P. F. W. & C. Ry.	69	1,769	16	328	85	2,097
Wabash R. R.....	25	830	10	120	35	950
TOTALS	1,337	32,466	388	7,094	1,725	47,660

NOTE: Figures are based on business of March, 1913.

Table No. 12

CHICAGO FREIGHT TERMINALS

TEAM TRACK FREIGHT DAILY

In Territory East of Desplaines Street from 18th Street to Chicago Avenue

RAILROAD	INBOUND		OUTBOUND		TOTAL		Car Cap'y of Team Tracks
	Cars	Tons	Cars	Tons	Cars	Tons	
A. T. & S. F. Ry.....	12	152	5	57	17	209	141
B. & O. R. R.....	20	200	3	75	23	275	162
B. & O. C. T. R. R.....	6	146	2	42	8	188	133
C. & A. R. R.....	9	14	9	19	18	33	116
C. & E. I. R. R.....	14	225	6	81	20	306	146
C. B. & O. R. R.....	41	708	16	204	57	912	386
C. G. W. R. R.....	6	120	5	150	11	270	138
C. I. & L. Ry.....	15	300	3	60	18	360	68
C. M. & St. P. Ry.....	84	1,615	30	620	114	2,235	292
C. & N. W. Ry.....	122	3,518	37	721	159	4,239	691
C. R. I. & P. Ry.....	23	605	12	258	35	863	171
C. & E. R. R.....	10	140	5	65	15	205	69
G. T. W. Ry.....	11	198	14	169	25	367	73
I. C. R. R.....	40	800	22	480	62	1,280	470
L. S. & M. S. Ry.....	35	700	25	900	60	1,600	206
M. C. R. R.....	31	500	16	230	47	730	157
M. St. P. & S. S. M. Ry.	12	200	1	14	13	214	99
N. Y. C. & St. L. R. R.	5	65	11	90	16	155	94
P. M. R. R.....	12	200	2	27	14	227	126
P. C. C. & St. L. Ry.....	33	695	6	97	39	792	172
P. F. W. & C. Ry.....	39	956	12	195	51	1,151	230
Wabash R. R.....	25	825	10	120	35	945	100
TOTALS	605	12,882	252	4,674	857	17,556	4,240

NOTE: Figures are based on business of March, 1913.

Table No. 13

CHICAGO FREIGHT TERMINALS

DAILY TEAM TRACK BUSINESS

In Territory East of Desplaines Street from 18th Street to Chicago Avenue

DISTRICT	INBOUND		OUTBOUND		TOTAL		Car Cap'y of Team Tracks
	Cars	Tons	Cars	Tons	Cars	Tons	
North of Chicago River, East of North Branch							
C. M. & St. P. Ry.....	35	680	20	400	55	1,080	102
C. & N. W. Ry.....	7	95	12	135	19	230	41
TOTALS	42	775	32	535	74	1,310	143
Desplaines St. to River, Madison to Chicago Ave.							
C. M. & St. P. Ry.....	45	850	8	160	53	1,010	160
C. & N. W. Ry.....	87	2,683	18	446	105	3,129	473
P. C. C. & St. L. Ry.....	33	695	6	97	39	792	172
P. F. W. & C. Ry.....	9	124	0	0	9	124	31
TOTALS	174	4,352	32	703	206	5,055	836

Desplaines St. to River, Madison to 12th Street							
C. & A. R. R.....	9	14	9	19	18	33	116
C. B. & Q. R. R.....	13	203	14	179	27	382	131
P. F. W. & C. Ry.....	15	330	6	68	21	398	77
TOTALS	37	547	29	266	66	813	324

Desplaines St. to River, 12th to 18th Street							
B. & O. R. R.....	20	200	3	75	23	275	162
B. & O. C. T. R. R....	6	146	2	42	8	188	133
C. B. & Q. R. R.....	28	505	2	25	30	530	255
C. G. W. R. R.....	6	120	5	150	11	270	138
C. M. & St. P. Ry.....	4	85	2	60	6	145	30
C. & N. W. Ry.....	28	740	7	140	35	880	177
P. M. R. R.....	12	200	2	27	14	227	126
P. F. W. & C. Ry.....	15	502	6	127	21	629	122
M. St. P. & S. S. M. Ry.	12	200	1	14	13	214	230
TOTALS	131	2,698	30	660	161	3,358	1,373

East of Chicago River, Harrison to 18th St.							
A. T. & S. F. Ry.....	12	152	5	57	17	209	141
C. & E. I. R. R.....	14	225	6	81	20	306	146
C. I. & L. Ry.....	15	300	3	60	18	360	68
C. R. I. & P. Ry.....	23	605	12	258	35	863	171
C. & E. R. R.....	10	140	5	65	15	205	69
G. T. W. Ry.....	11	198	14	169	25	367	73
L. S. & M. S. Ry.....	35	700	25	900	60	1,600	206
N. Y. C. & St. L. R. R...	5	65	11	90	16	155	94
Wabash R. R.....	25	825	10	120	35	945	100
TOTALS	150	3,210	91	1,800	241	5,010	1,068

Lake Front							
I. C. R. R.....	40	800	22	480	62	1,280	470
M. C. R. R.....	31	500	16	230	47	730	157
TOTALS	71	1,300	38	710	109	2,010	627

TOTALS—BY DISTRICTS

North of Chicago River, East of North Branch							
Desplaines St. to River, Madison to Chicago Ave.	174	4,352	32	703	206	5,055	836
Desplaines St. to River, Madison to 12th St...	37	547	29	266	66	813	324
Desplaines St. to River, 12th to 18th Street...	131	2,698	30	660	161	3,358	1,373
East of Chicago River, Harrison to 18th St..	150	3,210	91	1,800	241	5,010	1,068
Lake Front	71	1,300	38	710	109	2,010	627
GRAND TOTALS.	605	12,882	252	4,674	857	17,556	4,371

NOTE: Figures based on business of March, 1913.

CHICAGO FREIGHT TERMINALS

Table No. 14

Outbound House Freight
Transfer Freight Received Daily

RAILROAD	BY CAR	BY TEAM	BY TUNNEL	TOTAL
	Tons	Tons	Tons	Tons
A. T. & S. F. Ry.....	673	0	0	673
B. & O. R. R.....	150	50	20	220
C. & A. R. R.....	93	60	12	165
C. & E. I. R. R.....	250	80	20	350
C. B. & Q. R. R.....	130	210	21	361
C. G. W. R. R.....	12	200	9	221
C. I. & L. Ry.....	36	4	5	45
C. M. & St. P. Ry.....	665	145	70	880
C. & N. W. Ry.....	1,296	92	15	1,403
C. R. I. & P. Ry.....	50	75	40	165
C. & E. R. R.....	32	100	26	158
G. T. W. Ry.....	133	69	21	223
I. C. R. R.....	400	150	100	650
I. N. Ry.....	90	0	0	90
L. S. & M. S. Ry.....	290	48	130	468
M. C. R. R.....	300	66	20	386
M. St. P. & S. S. M. Ry...	60	20	15	95
N. Y. C. & St. L. R. R....	0	15	5	20
P. M. R. R.....	18	6	0	24
P. C. C. & St. L. Ry.....	85	77	14	176
P. F. W. & C. Ry.....	312	79	39	430
Wabash R. R.....	150	0	10	160
TOTALS	5,225	1,546	592	7,363

NOTE: Figures based on business of March, 1913.

CHICAGO FREIGHT TERMINALS

Table No. 15

Inbound House Freight
Transfer Freight Forwarded Daily

RAILROAD	BY CAR	BY TEAM	BY TUNNEL	TOTAL
	Tons	Tons	Tons	Tons
A. T. & S. F. Ry.....	0	40	5	45
B. & O. R. R.....	40	30	25	95
B. & O. C. T. R. R.....	250	0	0	250
C. & A. R. R.....	4	33	12	49
C. & E. I. R. R.....	32	59	13	104
C. B. & Q. R. R.....	96	104	67	267
C. G. W. R. R.....	10	60	40	110
C. I. & L. Ry.....	0	65	22	87
C. M. & St. P. Ry.....	0	245	54	299
C. & N. W. Ry.....	477	113	78	668
C. R. I. & P. Ry.....	30	130	35	195
C. W. P. & S. R. R.....	10	0	0	10
C. & E. R. R.....	15	10	8	33
G. T. W. Ry.....	0	108	31	139
I. C. R. R.....	108	170	75	353
L. S. & M. S. Ry.....	*	60	0	* 60
M. C. R. R.....	545	64	0	609
M. St. P. & S. S. M. Ry...	0	39	16	55
N. Y. C. & St. L. R. R....	0	55	10	65
P. M. R. R.....	0	5	0	5
P. C. C. & St. L. Ry.....	53	208	34	295
P. F. W. & C. Ry.....	0	30	0	30
Wabash R. R.....	100	269	42	411
TOTALS	1,770	1,897	567	4,234

*L. S. & M. S. car transfer included in M. C. R. R. figures.

NOTE: All figures based on business of March, 1913.

Table No. 16.

CHICAGO FREIGHT TERMINALS

IN TERRITORY EAST OF DESPLAINES STREET, FROM EIGHTEENTH STREET TO CHICAGO AVENUE

<i>Railroad</i>	<i>Kind of House</i>	<i>Combined House & Platform Area, Square Feet</i>	<i>Car Capacity of House Tracks</i>	<i>Area per Car of Track Capacity, Square Feet</i>	<i>Cars of Freight Daily</i>	<i>Area per Car of Freight, Sq. Ft.</i>
A. T. & S. F. Ry.—						
12th and State Sts.....	Out	25,069	100	250	65	385
14th and State Sts.....	In	14,457	18	803	15	964
B. & O. R. R.—						
Franklin and Polk Sts.....	In	34,920	32	1,090	45	775
Fifth Ave. and Polk St.....	Out	8,160	5	1,632	6	1,360
Illinois and Kingsbury Sts....	In—Out	22,750	8	2,844	3	7,583
Fifth Ave. and Taylor St....	Out	23,400	71	329	52	450
C. & A. R. R.—						
Cable St. and River.....	In	13,950	33	422	24	582
Cable and Canal Sts.....	Out	19,770	108	183	67	295
C. & E. I. R. R.—						
12th and Clark Sts.....	In	64,040	51	1,255	40	1,600
12th and Clark Sts.....	Out	33,383	112	297	110	303
C. & E. R. R.—						
14th and Clark Sts.....	In—Out	78,922	80	986	155	509
C. B. & Q. R. R.—						
Harrison and Canal Sts.....	In	54,356	34	1,600	64	850
16th St. and Stewart Ave....	In—Out	50,617	32	1,580	11	4,600
Canal and Harrison Sts.....	Out	78,800	173	455	162	486
16th and Jefferson Sts.....	Out	37,513	34	1,105	5	7,500
C. G. W. R. R.—						
303 W. Harrison St.....	In—Out	25,199	46	547	68	370
C. I. & L. Ry.—						
Federal and Taylor Sts.....	In—Out	24,690	52	474	90	271
C. M. & St. P. Ry.—						
Kinzie and Kingsbury Sts....	In	89,398	30	2,980	10	8,940
Wayman and Halsted Sts....	In	48,080	41	1,170	110	436
Kingsbury and Illinois Sts...	Out	58,164	18	3,225	7	8,309
Wayman and Desplaines Sts..	Out	41,456	128	324	170	244
Fulton and West Water Sts..	Out	31,284	13	2,410	4	7,821
15th and Jefferson Sts.....	Out	12,000	7	1,714	10	1,200
C. & N. W. Ry.—						
State St. and River.....	In	32,138	27	1,190	46	697
Grand Ave. and Jefferson St..	In	42,084	17	2,475	82	512
Rush St., near Kinzie St.....	Out	48,480	59	822	83	584
526 W. Kinzie St.....	Out	46,402	105	442	100	464
16th and Jefferson Sts.....	Out	29,640	156	190	70	423
C. R. I. & P. Ry.—						
Sherman and Taylor Sts.....	In	23,424	36	651	30	781
Fifth Ave. and Taylor St....	In	39,355	48	820	15	2,620
Sherman and Taylor Sts.....	Out	58,646	116	505	100	586

CHICAGO FREIGHT TERMINALS—(Continued)

<i>Railroad</i>	<i>Kind of House</i>	<i>Combined House & Platform Area, Square Feet</i>	<i>Car Capacity of House Trucks</i>	<i>Area per Car of Track Capacity, Square Feet</i>	<i>Cars of Freight Daily</i>	<i>Area per Car of Freight, Sq. Ft.</i>
G. T. W. Ry.—						
12th St. and Plymouth Ct....	In	37,941	14	2,710	74	513
Taylor St. and Plymouth Ct..	Out	41,250	66	625	48	858
I. C. R. R.—						
South Water St.....	In	63,288	24	2,640	90	703
South Water St.....	Out	55,378	248	223	230	242
L. S. & M. S. Ry.—						
La Salle and Taylor Sts.....	In	29,650	56	529	100	296
Taylor and Clark Sts.....	In	10,000	6	1,666	5	2,000
Clark and Polk Sts.....	In	11,410	4	2,852	8	1,426
Clark St., foot of Taylor St..	In	10,500	8	1,312	10	1,050
La Salle and Taylor Sts.....	Out	51,200	73	701	130	394
M. C. R. R.—						
120 E. South Water St.....	In	50,000	17	2,940	20	2,500
120 E. South Water St.....	In	31,500	28	1,125	75	420
120 E. South Water St.....	Out	23,200	98	237	110	210
M. St. P. & S. S. M. Ry.—						
12th and Canal Sts.....	In—Out	165,000	179	921	82	2,012
N. Y. C. & St. L. R. R.—						
Taylor, 12th and Clark Sts...	In—Out	35,485	54	657	69	512
P. M. R. R.—						
Harrison and Franklin Sts....	In—Out	9,150	29	315	43	213
P. C. C. & St. L. Ry.—						
Halsted and Carroll Sts.....	In	35,520	26	1,366	46	772
Kinzie and Morgan Sts.....	In	34,800	14	2,485	23	1,512
Clinton and Carroll Sts.....	Out	18,000	47	383	35	514
P. F. W. & C. Ry.—						
Madison St. and River.....	In	62,035	82	756	54	1,148
Polk St. and River.....	In	17,630	18	980	9	1,960
Van Buren St. and River.....	Out	13,925	40	348	22	633
18th St. and Stewart Ave....	Out	25,900	53	488	27	960
Van Buren St. and River.....	Out	24,105	17	1,418	24	1,005
Wabash R. R.—						
12th St. and Plymouth Ct....	In	62,143	81	766	65	954
Clark and Taylor Sts.....	Out	25,404	90	282	83	306

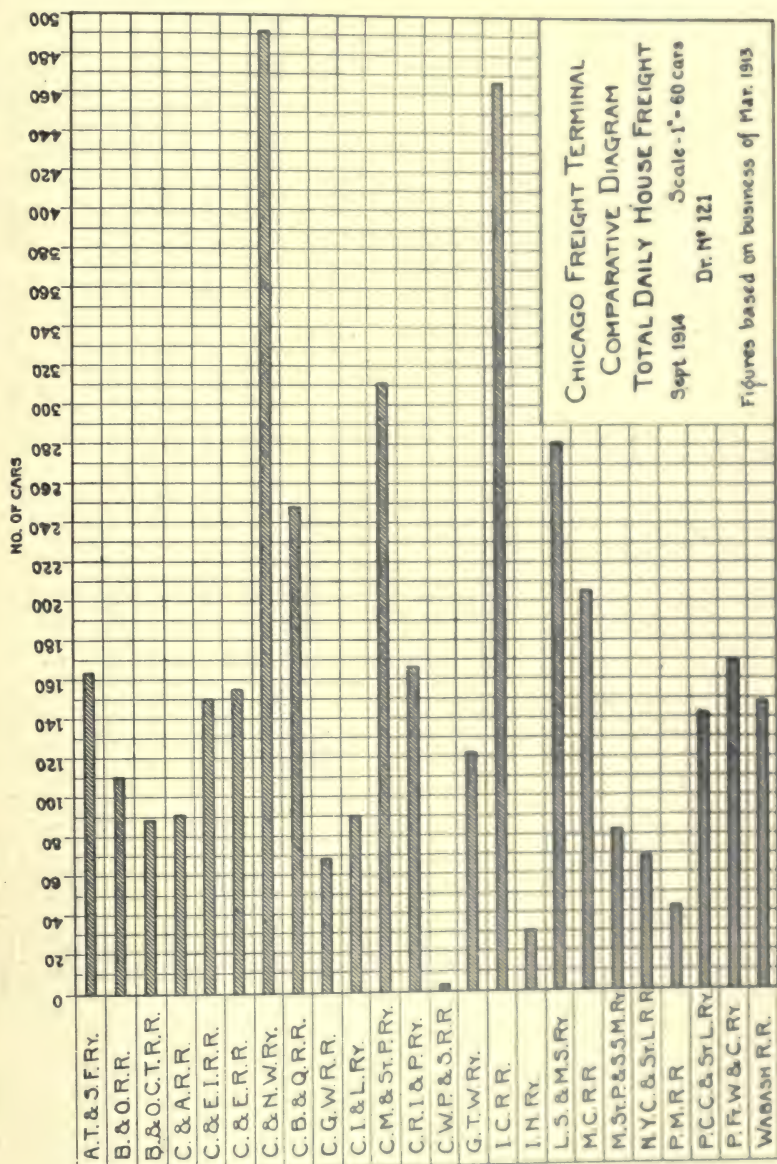
Note: Figures based on business of March, 1913.

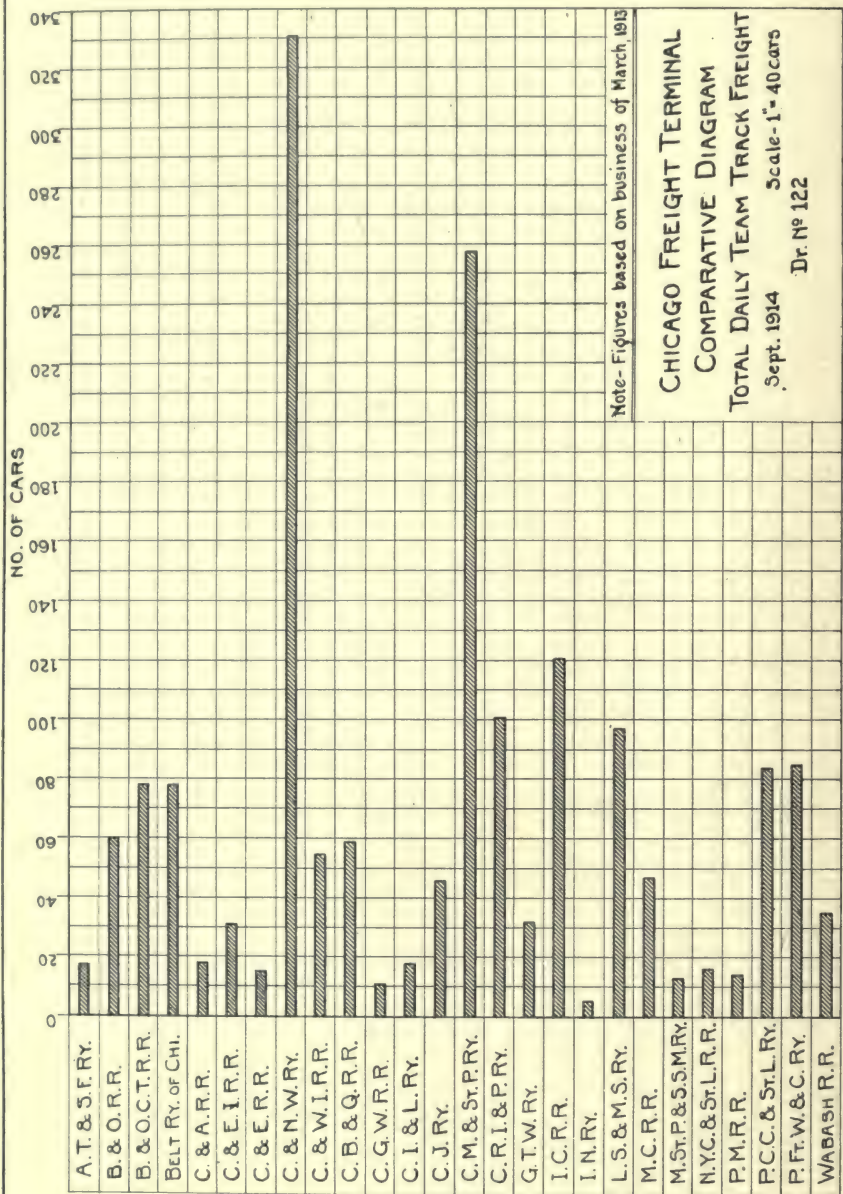
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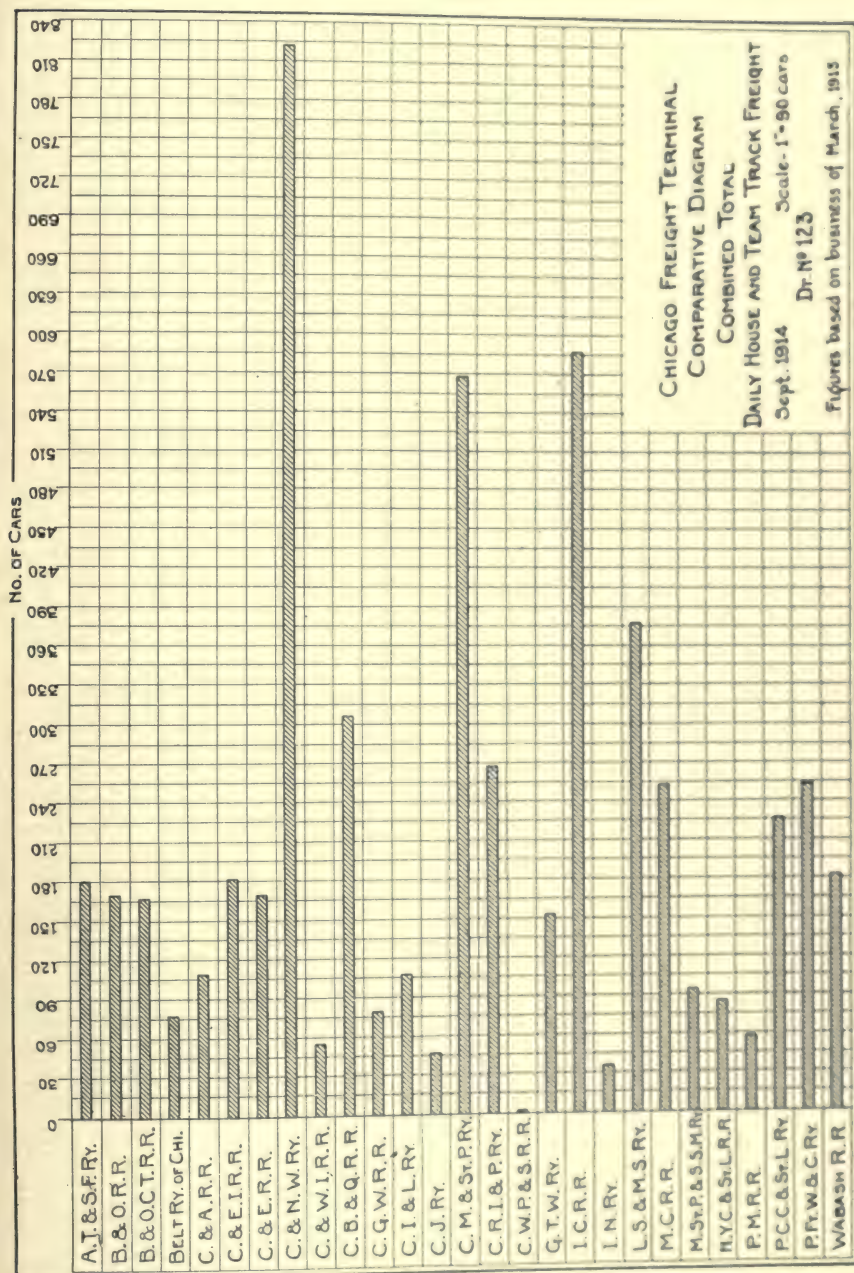
CHICAGO FREIGHT TERMINALS
HOUSE AND TEAM TRACK FACILITIES

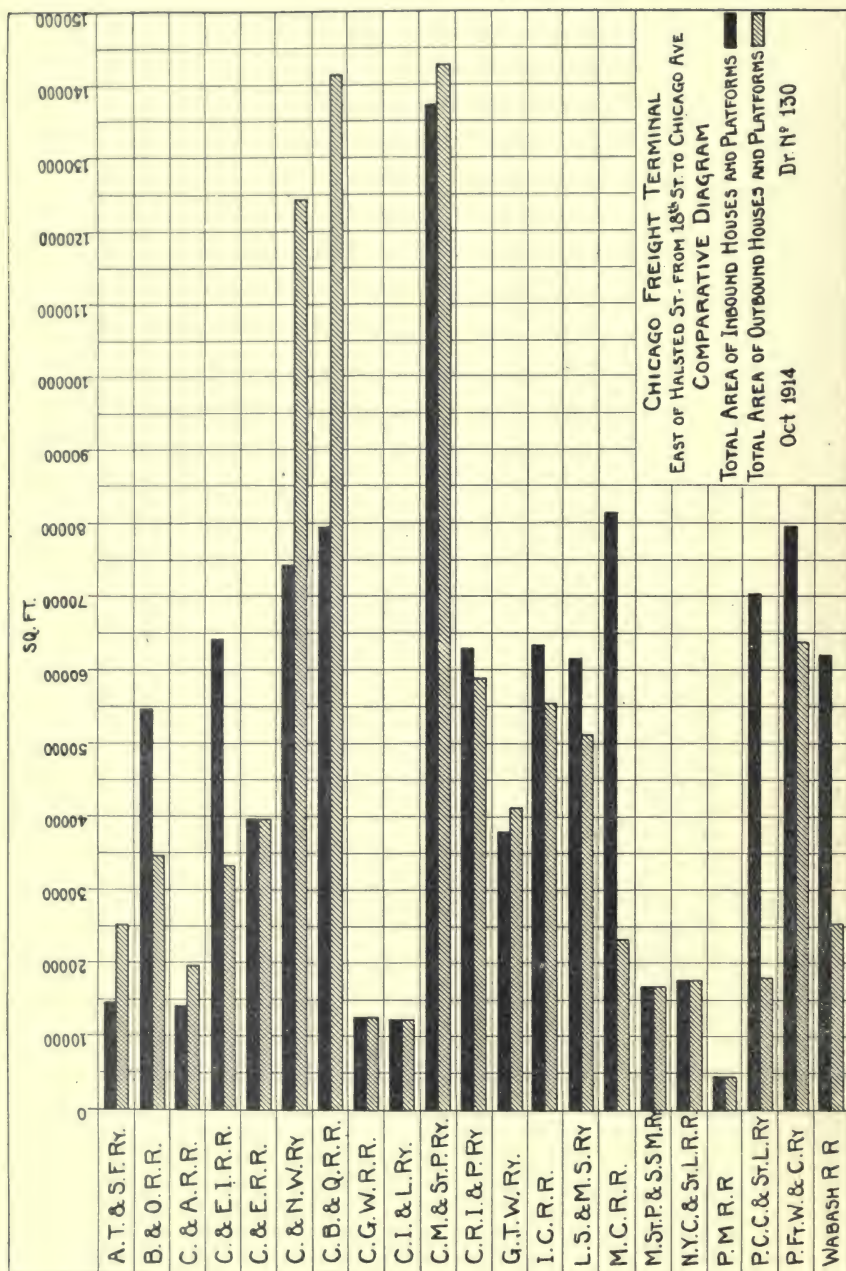
Railroad	FREIGHT HOUSE FACILITIES					TEAM TRACK FACILITIES					HOUSE AND TEAM TRACK				
	Area Occupied, Square Feet	Cars Track	Capacity	Area per Car Sq. Ft.	Cars of Freight Daily	Area per Car Sq. Ft.	Cars Track	Capacity	Area per Car Sq. Ft.	Cars of Freight Daily	Area Occupied, Square Feet	Cars Track	Capacity	Area per Car Sq. Ft.	Cars of Freight Daily
A. T. & S. F. Ry.....	172,676	142	1,216	2,158	80	213,900	141	1,517	17	12,582	386,576	283	1,365	97	3,985
B. & O. R. R.....	190,882	108	1,767	1,853	103	192,000	162	1,185	23	8,347	382,882	270	1,418	126	3,038
B. & O. C. T. R. R.....	..	..	..	..	..	187,313	77	2,432	3	62,437	187,313	77	2,432	3	62,437
C. & E. I. R. R.....	293,873	163	1,802	1,959	150	108,000	146	740	20	5,400	401,873	309	1,300	170	2,363
C. & E. R. R.....	113,640	80	1,420	155	733	81,000	69	1,173	15	5,400	194,640	149	1,306	170	1,144
C. G. W. R. R.....	90,499	46	1,967	1,330	68	171,000	138	1,239	11	15,545	261,499	184	1,421	79	3,310
C. I. & L. Ry.....	73,490	52	1,413	816	90	106,250	68	1,562	18	5,902	179,740	120	1,497	108	1,664
C. R. I. & P. Ry.....	341,515	200	1,707	2,355	145	280,000	171	1,637	35	8,000	621,515	371	1,675	180	3,452
G. T. W. Ry.....	208,066	80	2,600	1,222	122	96,900	73	1,327	25	3,876	304,966	153	1,993	147	2,074
L. S. & M. S. Ry.....	294,705	147	2,004	1,165	253	490,500	206	1,931	60	8,175	785,205	353	2,224	313	2,508
N. Y. C. & St. L. R. R...	85,810	54	1,589	1,243	69	43,400	94	943	16	2,712	129,210	148	873	85	1,520
P. M. R. R.....	48,250	29	1,663	1,122	43	115,200	126	914	14	8,228	163,450	155	1,054	57	2,867
Wabash R. R.	235,497	171	1,377	1,591	148	108,000	100	1,080	35	3,085	343,497	271	1,267	183	1,877
TOTALS.....	2,148,903	1,272	1,689	1,506	1,426	2,193,463	1,571	1,396	292	7,512	4,342,366	2,843	1,527	1,718	2,527

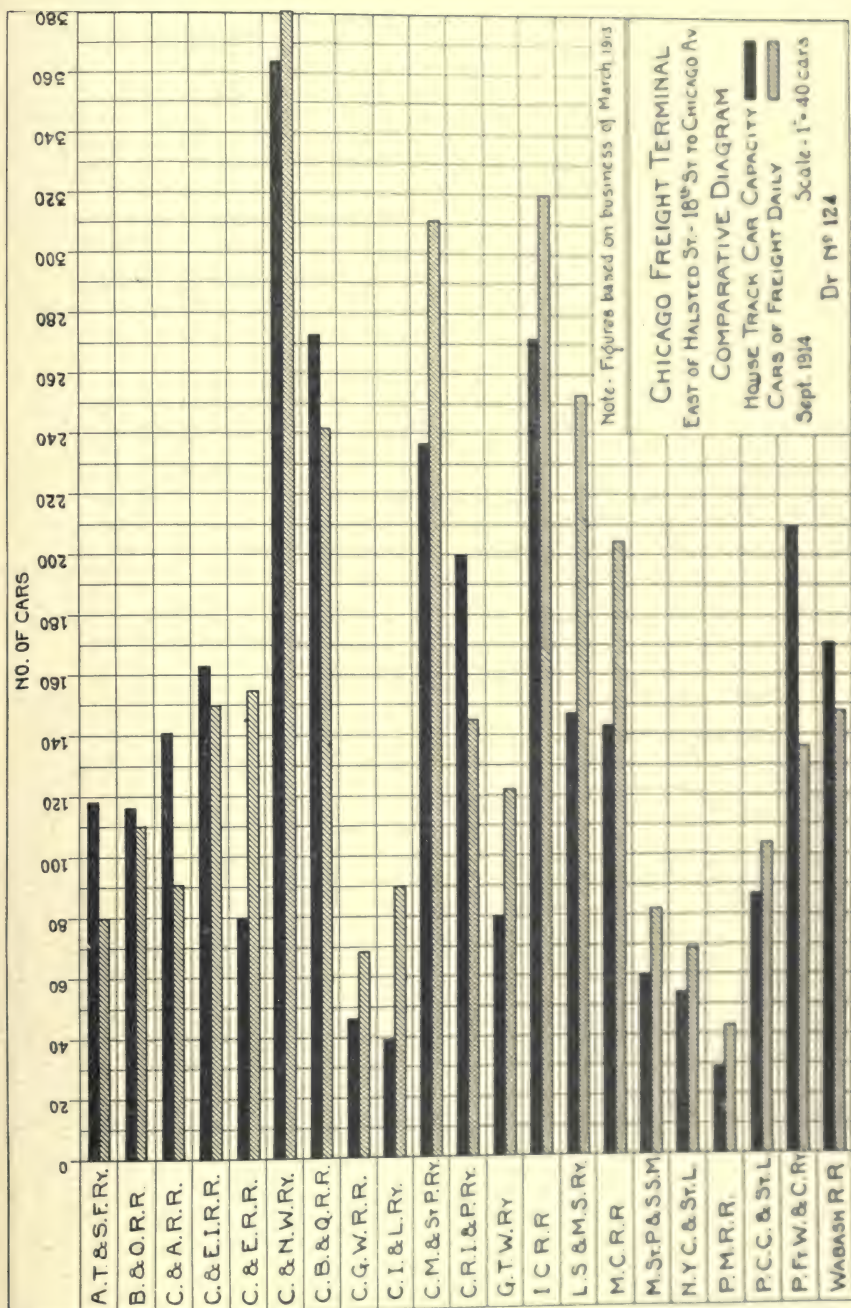
Note: A portion of the Team Track Area shown under L. S. & M. S. Ry. is used jointly with the N. Y. C. & St. L. R. R.

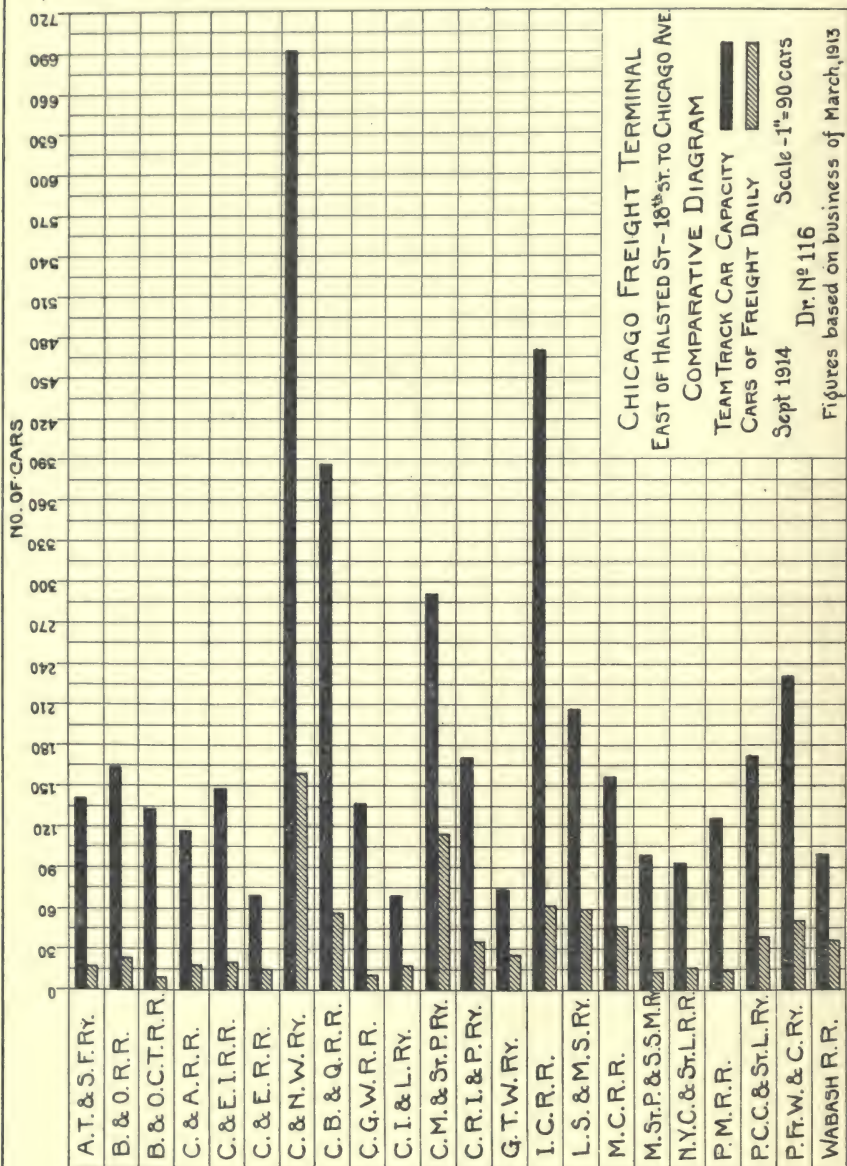


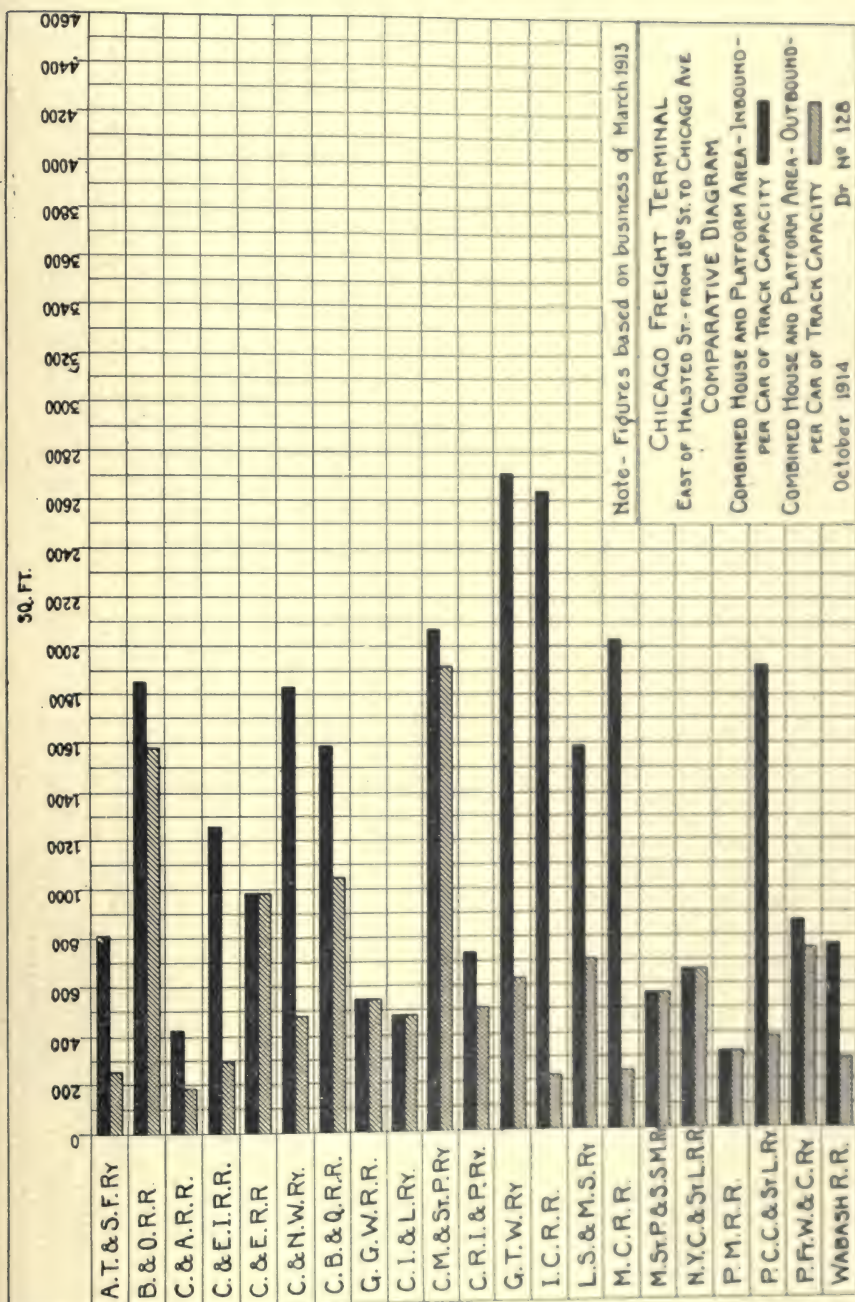


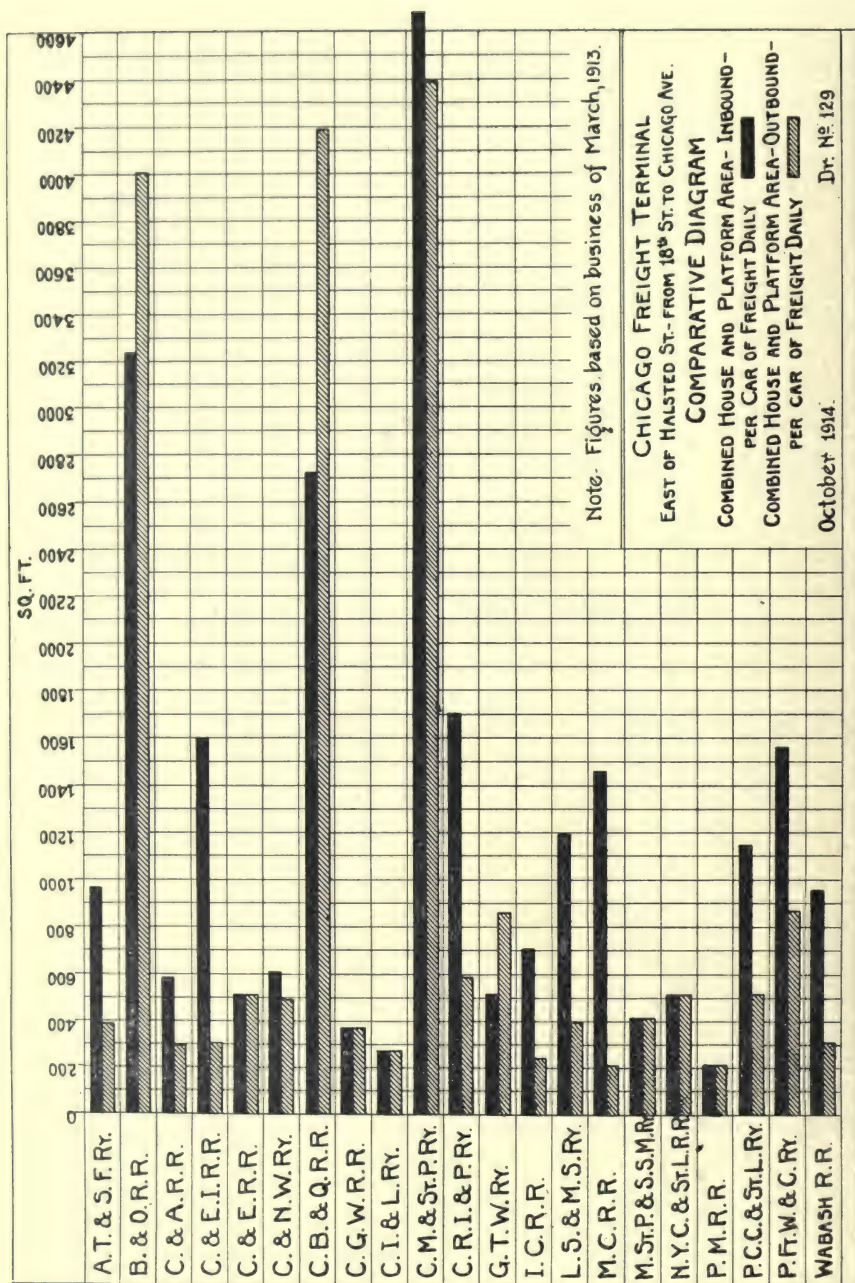


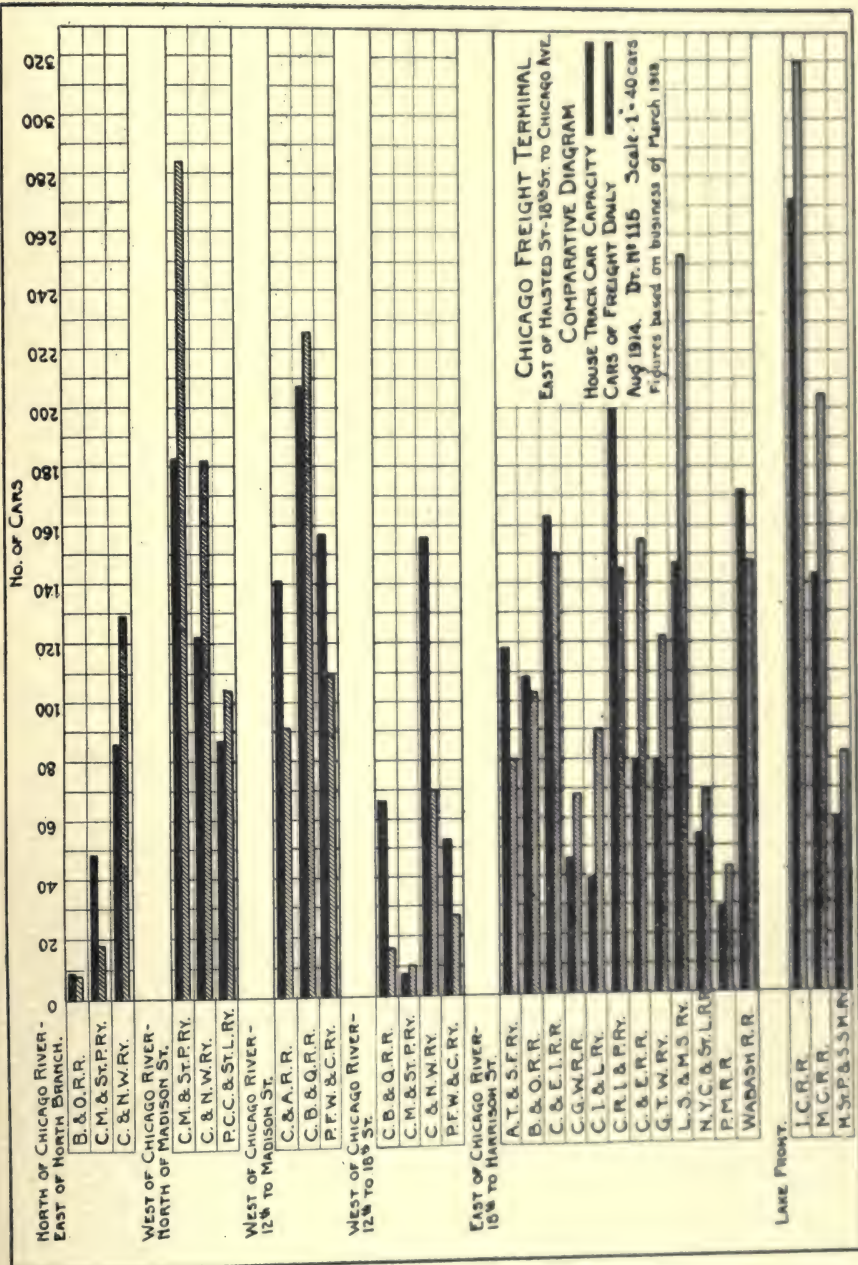


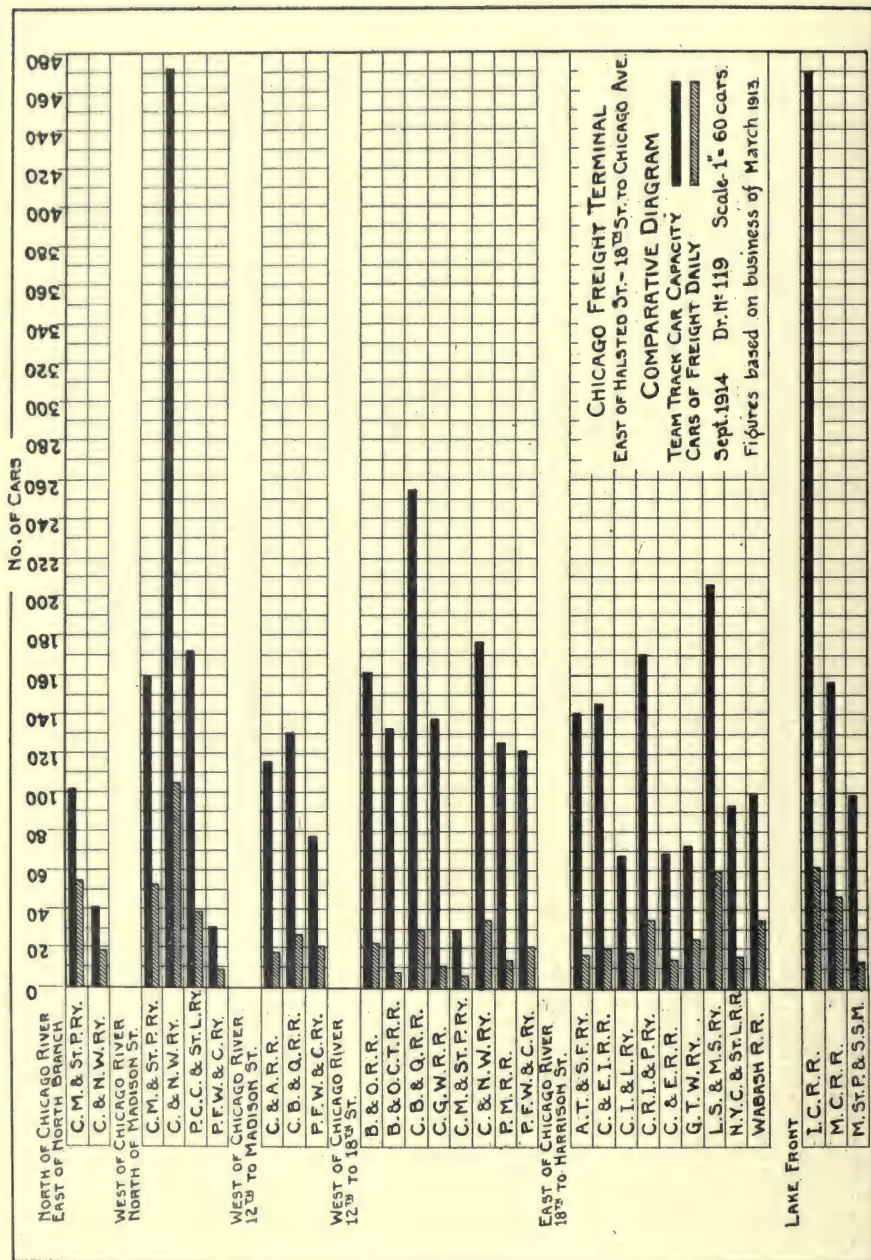


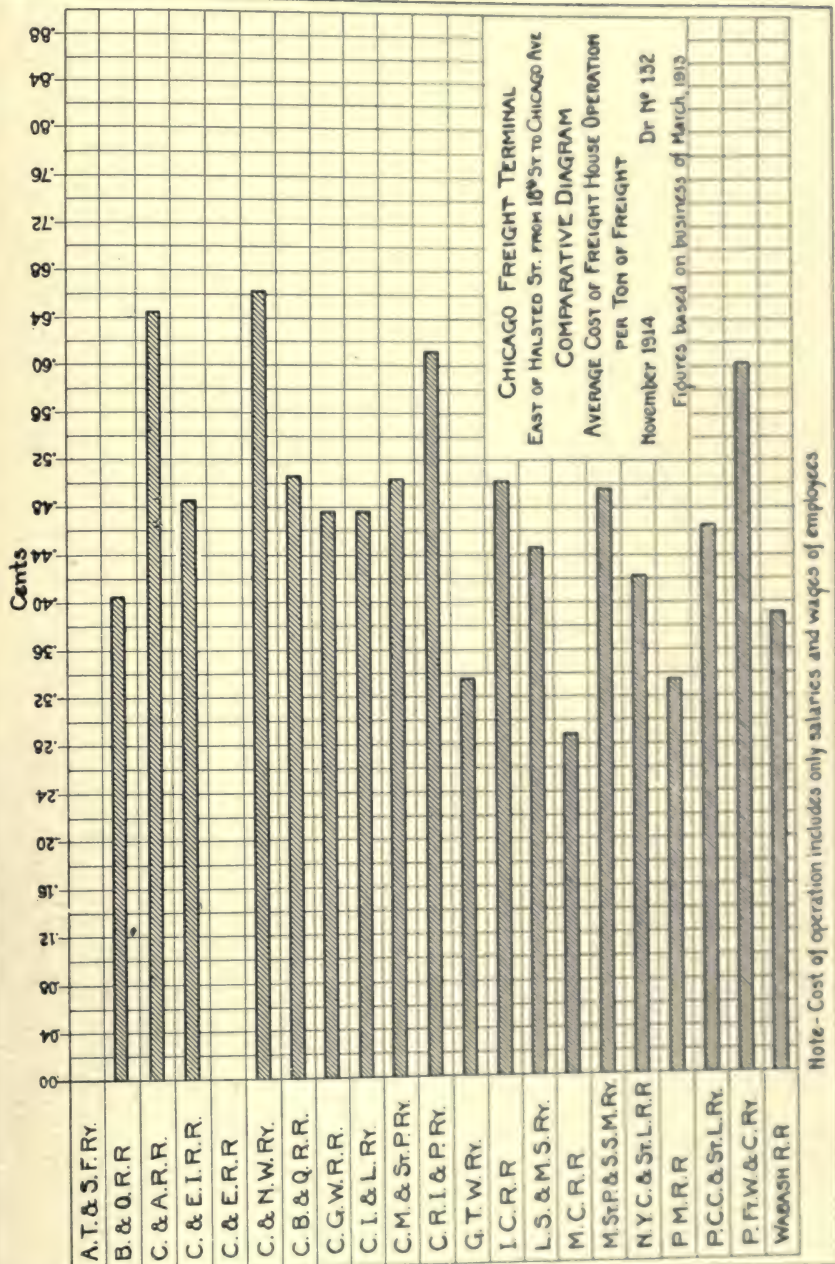












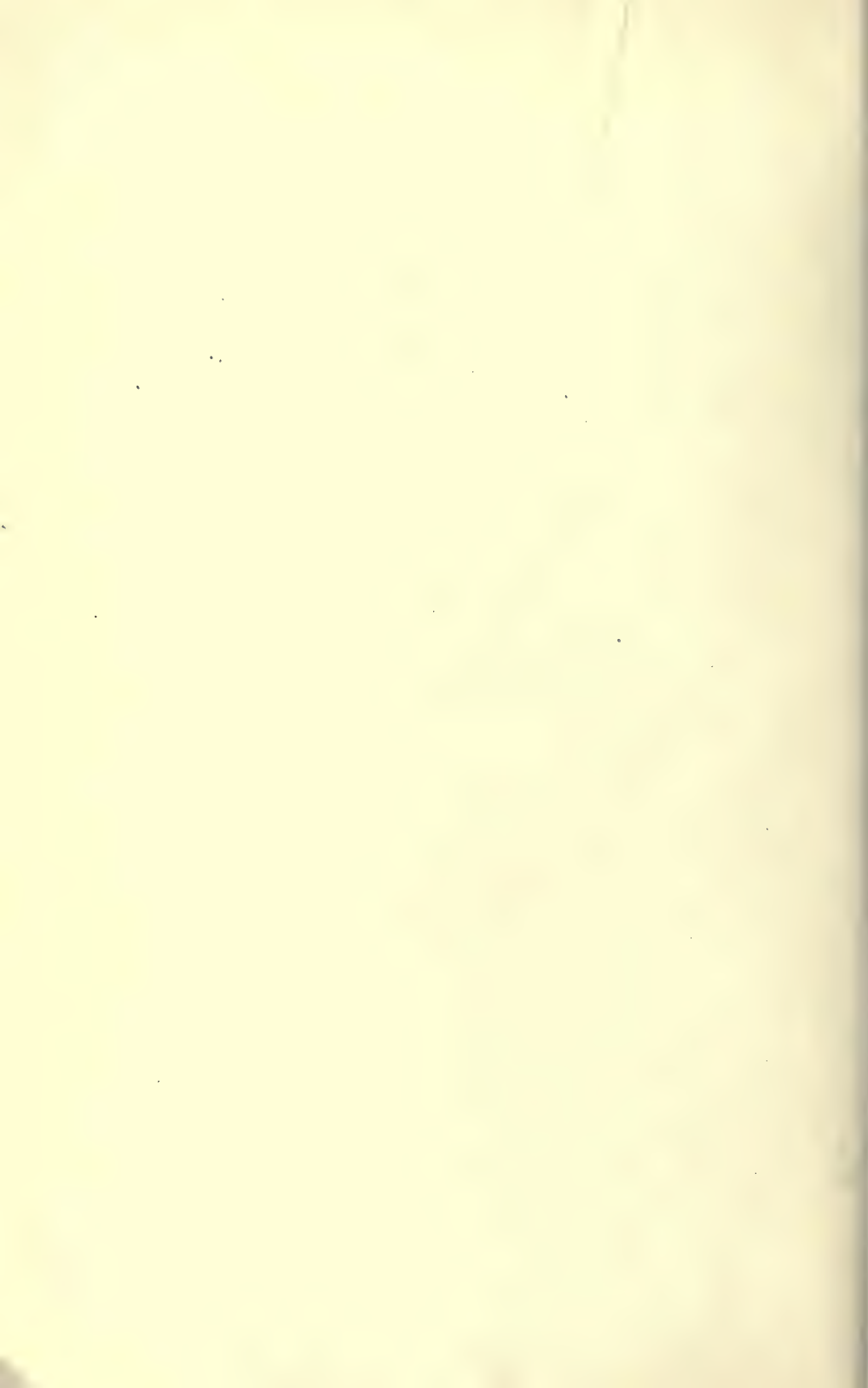
Note - Cost of operation includes only salaries and wages of employees

PHYSICAL CHARACTERISTICS AND TRAFFIC DATA PRINCIPAL AMERICAN PASSENGER TERMINAL STATIONS

CITY	NAME OF TERMINAL	STATION Prop. Acres	HEAD HOUSE			TRAIN SHED					Approach Tracks	TRAINS-AV. DAY			BUSINESS AVERAGE DAY					TRAINS PASSENGER HOUR			
			Area Sq. Ft.	Baggage Sq. Ft.	Express Sq. Ft.	Mail Sq. Ft.	Area Sq. Ft.	Tracks No.	Stubs No.	Trucks No.		Lifts Pass.	Subways	Thru Trains	Subways	Passenger Trains	No. Pass.	No. Pass.	Max. Time				
ST PAUL	(Proposed) Union Depot	53.6	113000	4000	48700	17000	453000	16	Max 1505 Min 656 Av. 1150	10	1	Concourse West 6	92	124	216	44929	1877	204	1000	31			
OMAHA	Union Depot (New)	9.5	33000	11800	4400	900	23522	4			2	1		108	108	20000	2800	75	1.4	28			
KANSAS CITY	Union Station	60.0	144150	74648	64543	430000			16	Max 1400 Min 400 Av. 1400	7	14	West East 6	300	300	28000	10000	350	29				
ST LOUIS	Union Station	12.6	48480	9000		488810	32	Av. 880				16	Baggage	6	270	80	350	35000		64			
CHICAGO	C. & N. W.	9.7	69760	44224	14330	64680	200349	16	Max 1150 Min 700 Av. 687		4	16		6	121	189	310	49448	5376	357	231	38	
CHICAGO	La Salle St. Sta.	12.5	33920	30391	23122	11073	124270	11	Max 925 Min 100 Av. 687		2	11		4	76	117	193	35256	2795	370	576	25	
CHICAGO	Union Sta. (Prop.)	24.7	106140	119168	84852	556000	10	Max 1460 Min 280 Av. 1220	2	2600		25		Nor. 4	163	117	280	34082	7427	829	1041	30	
WASHINGTON	Union Station	45.4	130400	41683	25200	535000	20		13					10	252		252	13110				20	
PHILADELPHIA	Broad St.	11.5	64448	38480		179950	16	Av. 900			2	5	Baggage	6	352	217	569	54761				51	
NEW YORK	Penna. Sta.	28.0	337120	45535					17			11	32	Baggage	2	146	254	400	50335				40
NEW YORK	Grand Central	20.0	201000	62940		158800	26		16					East 2	198	223	421	65725				56	
BOSTON	South Term.	34.6	42700	27794		343140	26	Max 940 Min 645 Av. 732	2			12	Baggage	8	332	511	843	125000	7000	250	87		
BOSTON	North Term.	9.0	65772	13855		247940	24	Max 960 Min. 100 Av. 898						Subway not used 4	8	119	456	577	88000	3400		61	

Office of John F. Wallace

GENERAL RAILROAD STATISTICS



RAILROAD STATISTICS.

The Eastern District, Southern District and Western District in the following diagrams are the districts into which the United States has been divided by the Interstate Commerce Commission in its statistical reports.

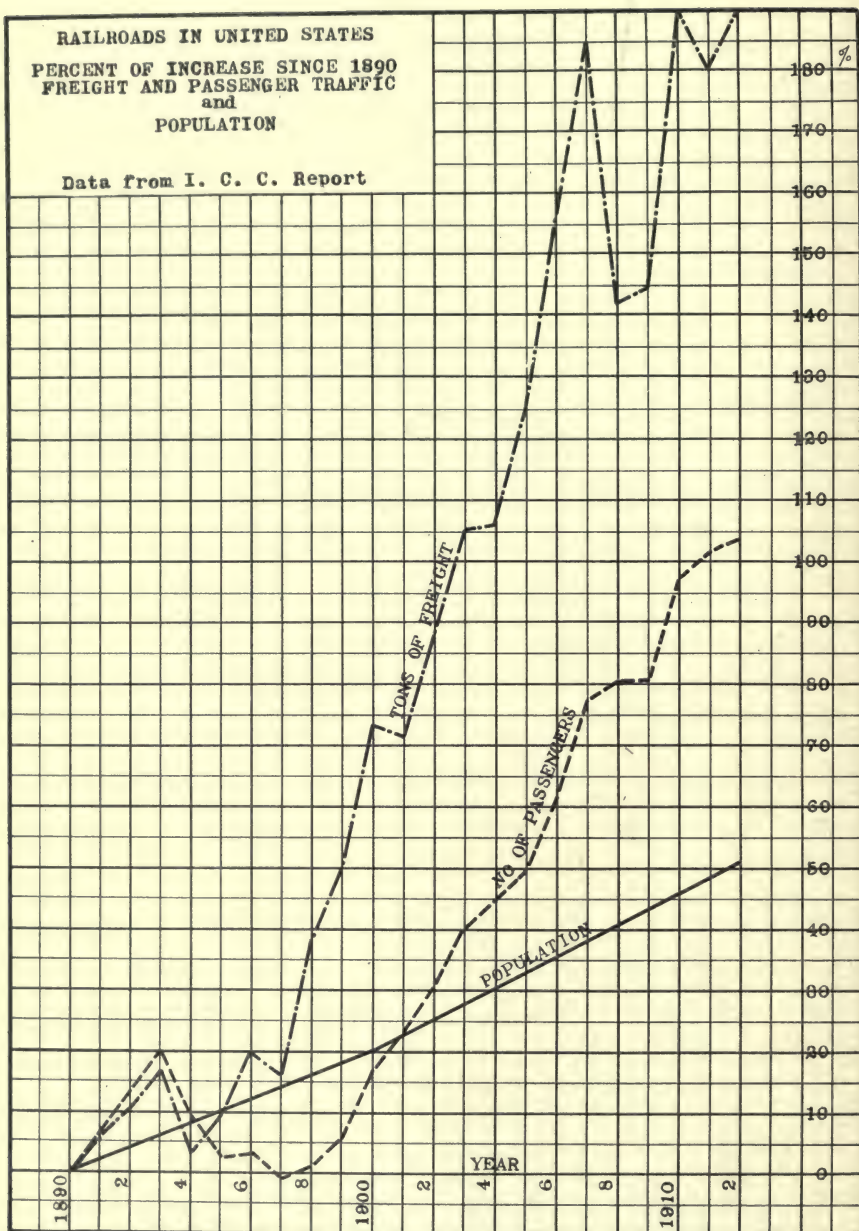
The three districts may be defined substantially as follows: The Eastern District comprises that portion of the United States bounded on the west by the northern and the western shores of Lake Michigan to Chicago, thence by a line to Peoria, thence to East St. Louis, thence down the Mississippi River to the mouth of the Ohio River, and on the south by the Ohio River from its mouth to Parkersburg, W. Va., thence by a line to the southwestern corner of Maryland, thence by the Potomac River to its mouth.

The Southern District comprises that portion of the United States bounded on the north by the Eastern District and on the west by the Mississippi River.

The remainder of the United States, exclusive of Alaska and of island possessions, is included in the Western District.

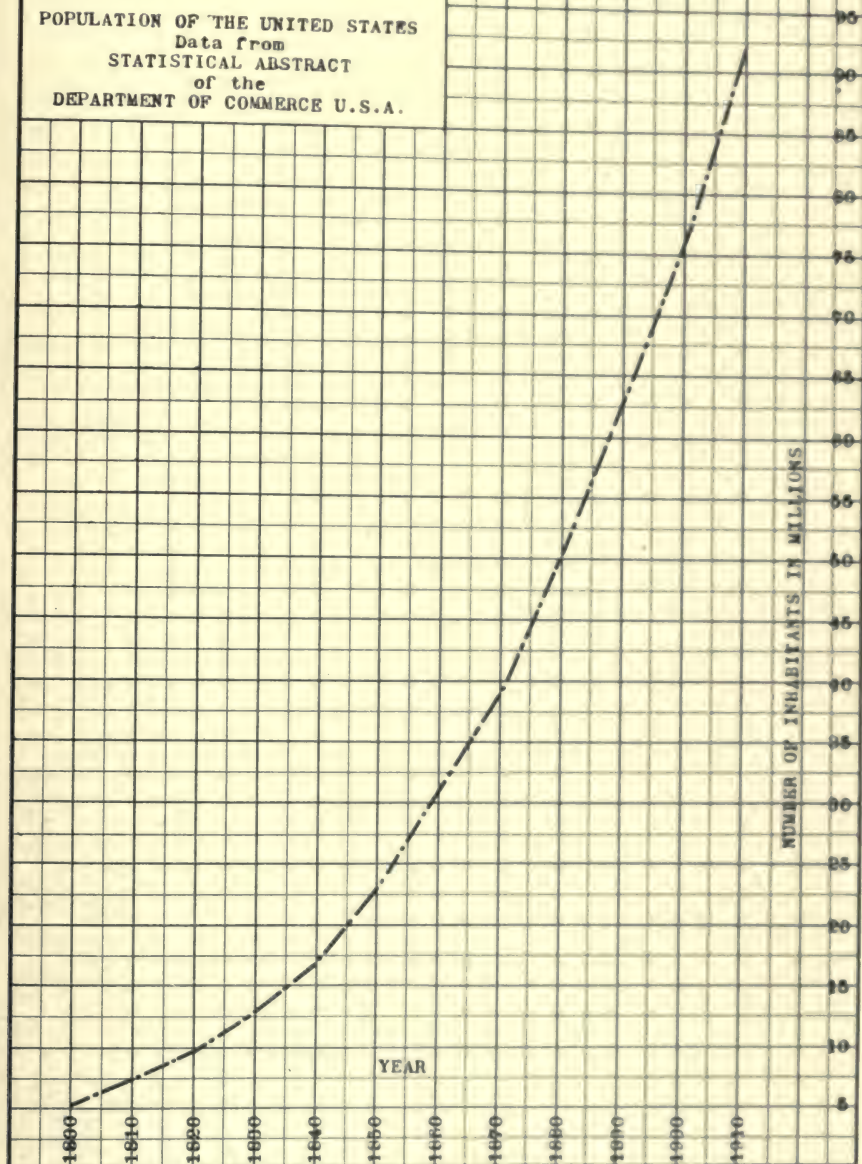
RAILROADS IN UNITED STATES
PERCENT OF INCREASE SINCE 1890
FREIGHT AND PASSENGER TRAFFIC
and
POPULATION

Data from I. C. C. Report



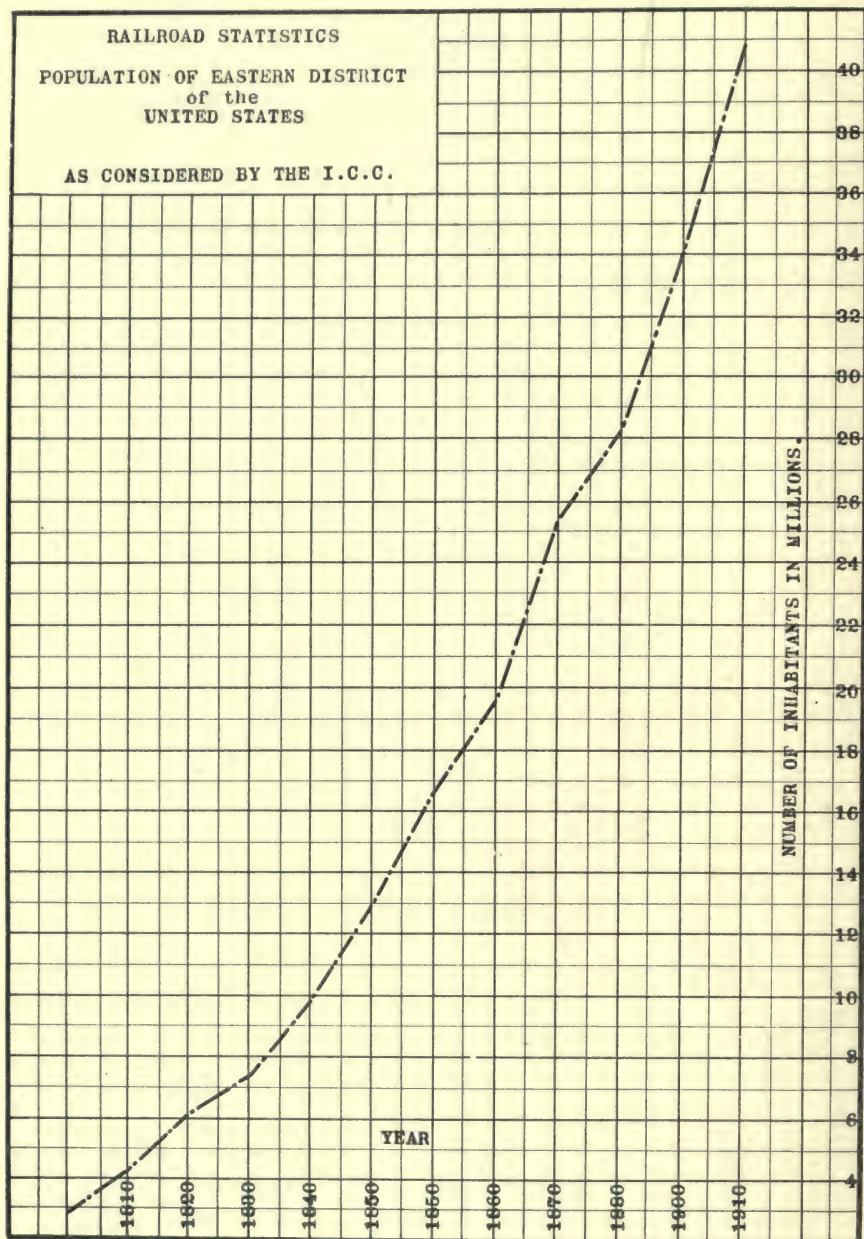
RAILROAD STATISTICS

POPULATION OF THE UNITED STATES
Data from
STATISTICAL ABSTRACT
of the
DEPARTMENT OF COMMERCE U.S.A.



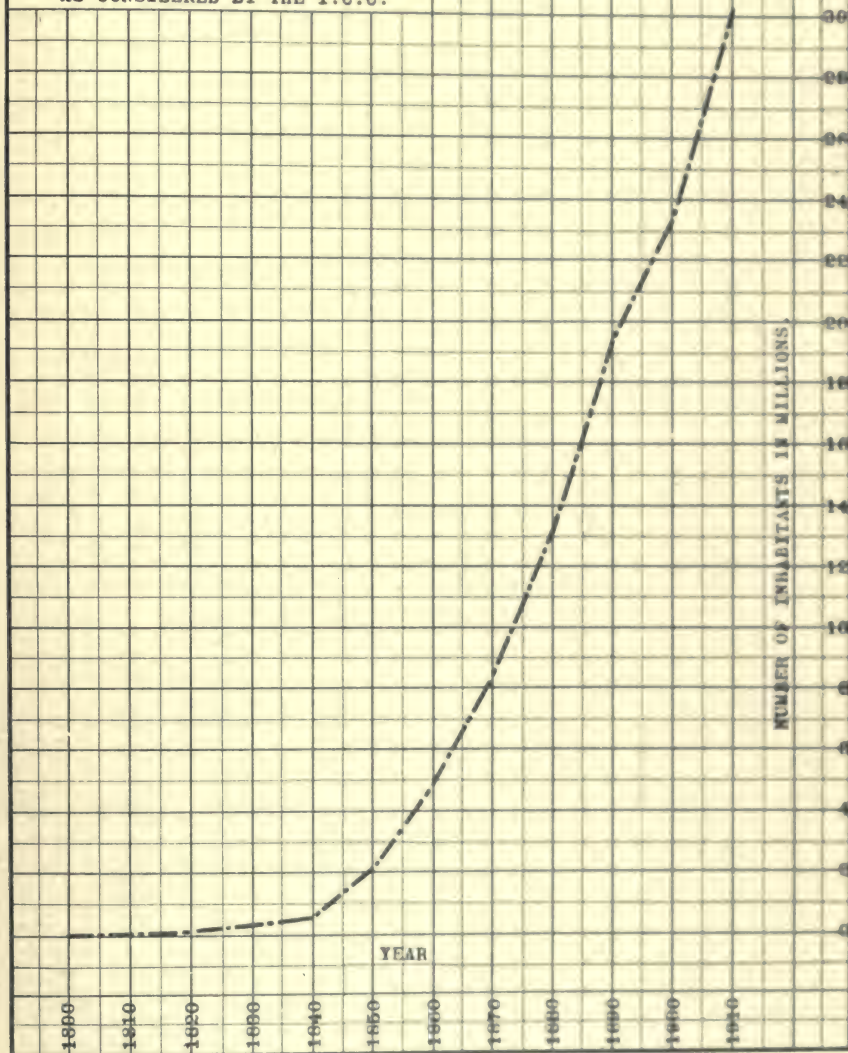
RAILROAD STATISTICS
POPULATION OF EASTERN DISTRICT
of the
UNITED STATES

AS CONSIDERED BY THE I.C.C.



RAILROAD STATISTICS
POPULATION OF WESTERN DISTRICT
of the
UNITED STATES

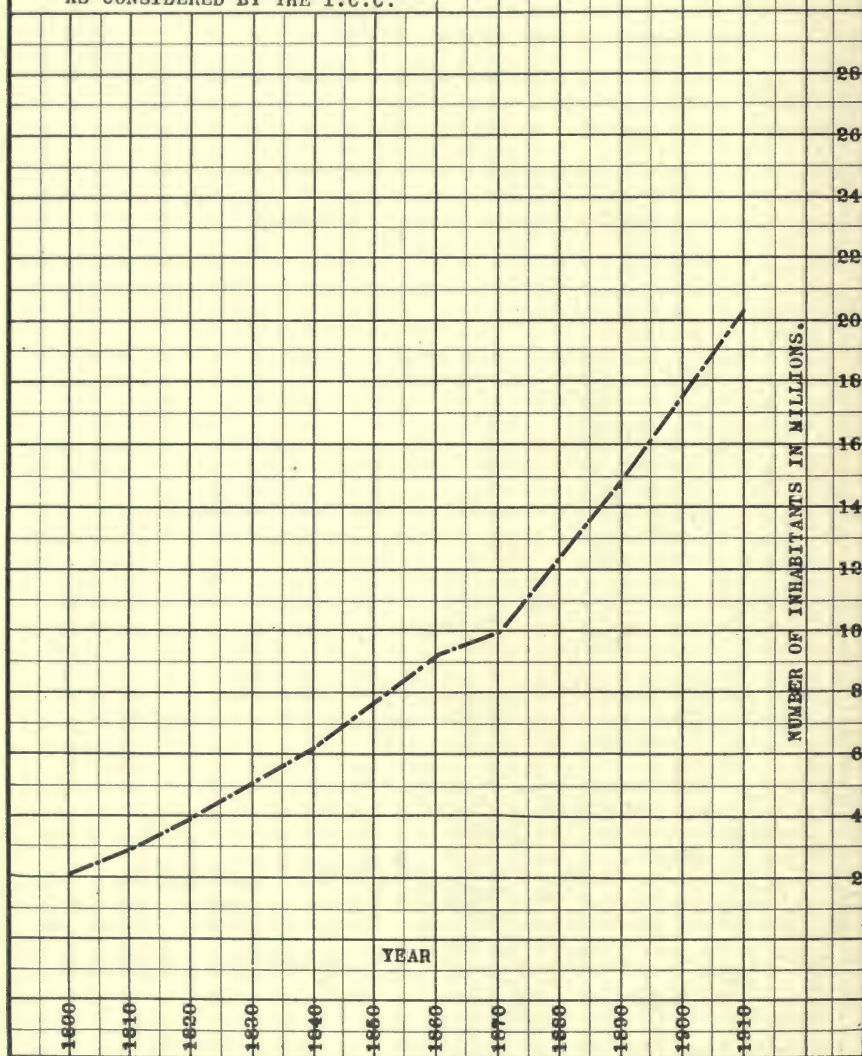
AS CONSIDERED BY THE I.C.C.



RAILROAD STATISTICS

POPULATION OF SOUTHERN DISTRICT
of the
UNITED STATES

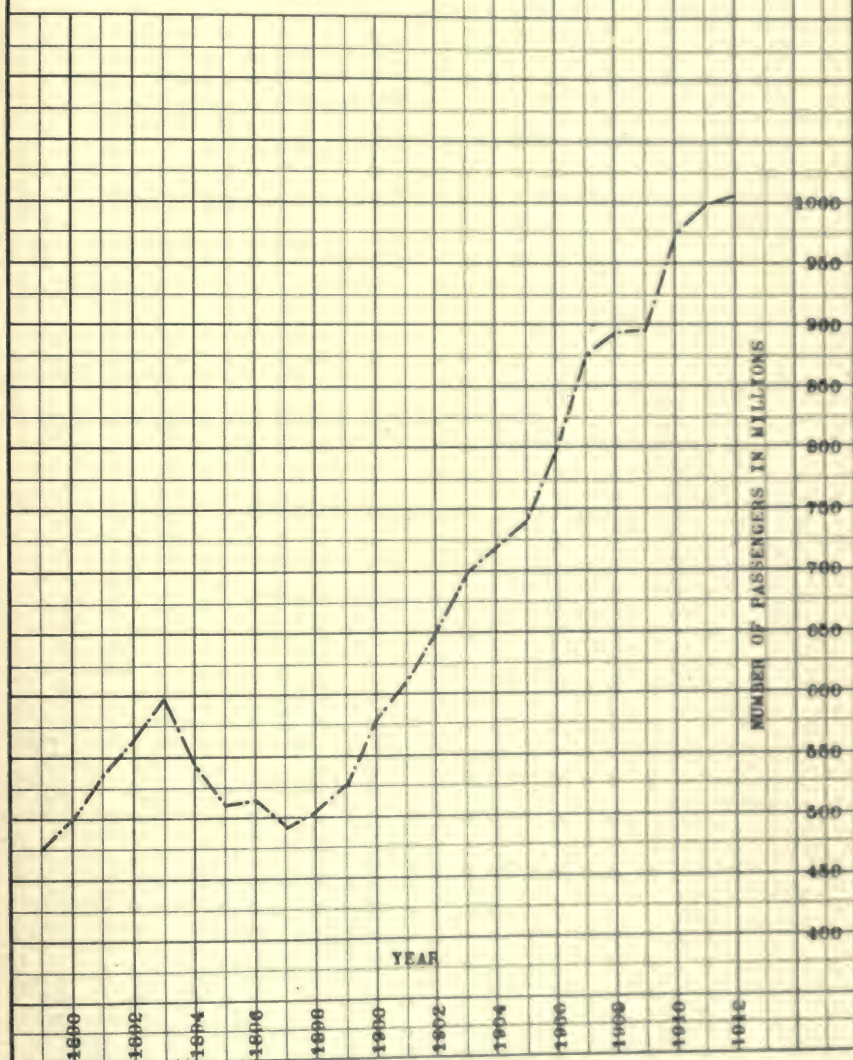
AS CONSIDERED BY THE I.C.C.



RAILROAD STATISTICS

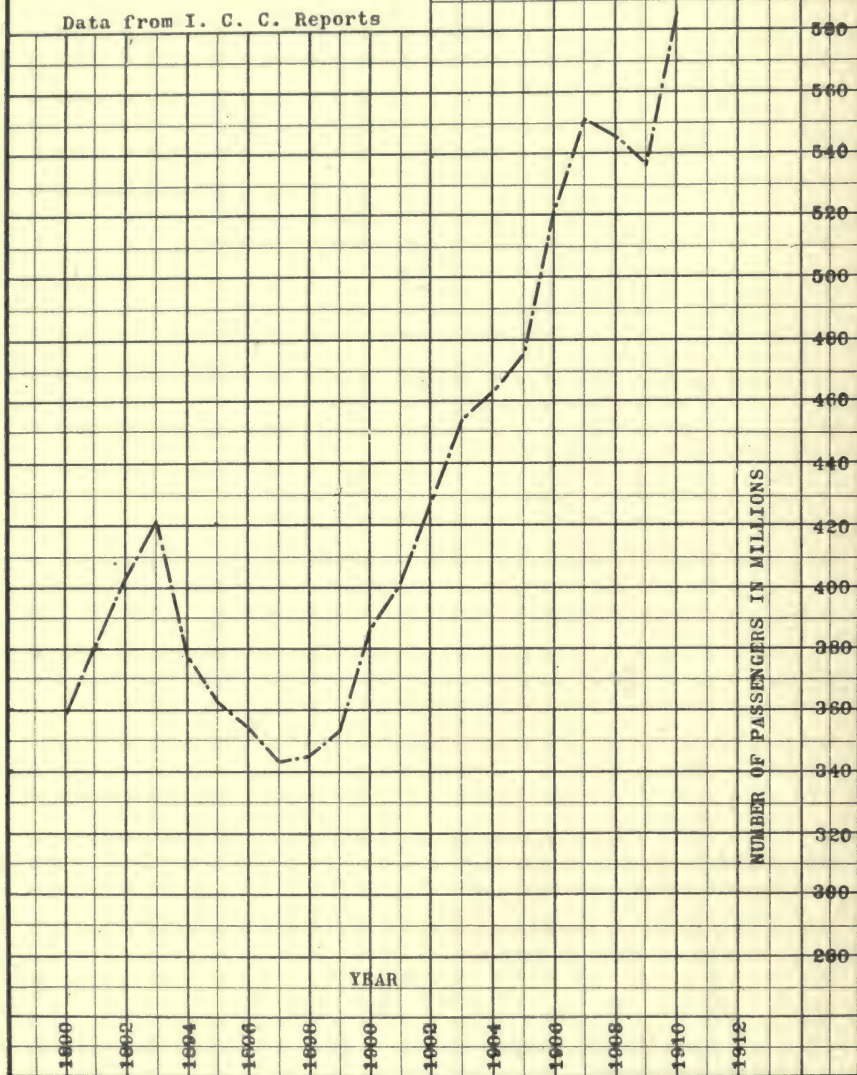
TOTAL PASSENGERS CARRIED
in
UNITED STATES

Data from I. C. C. Reports



RAILROAD STATISTICS
 NUMBER PASSENGERS CARRIED
 IN EASTERN DIVISION
 of the
 UNITED STATES

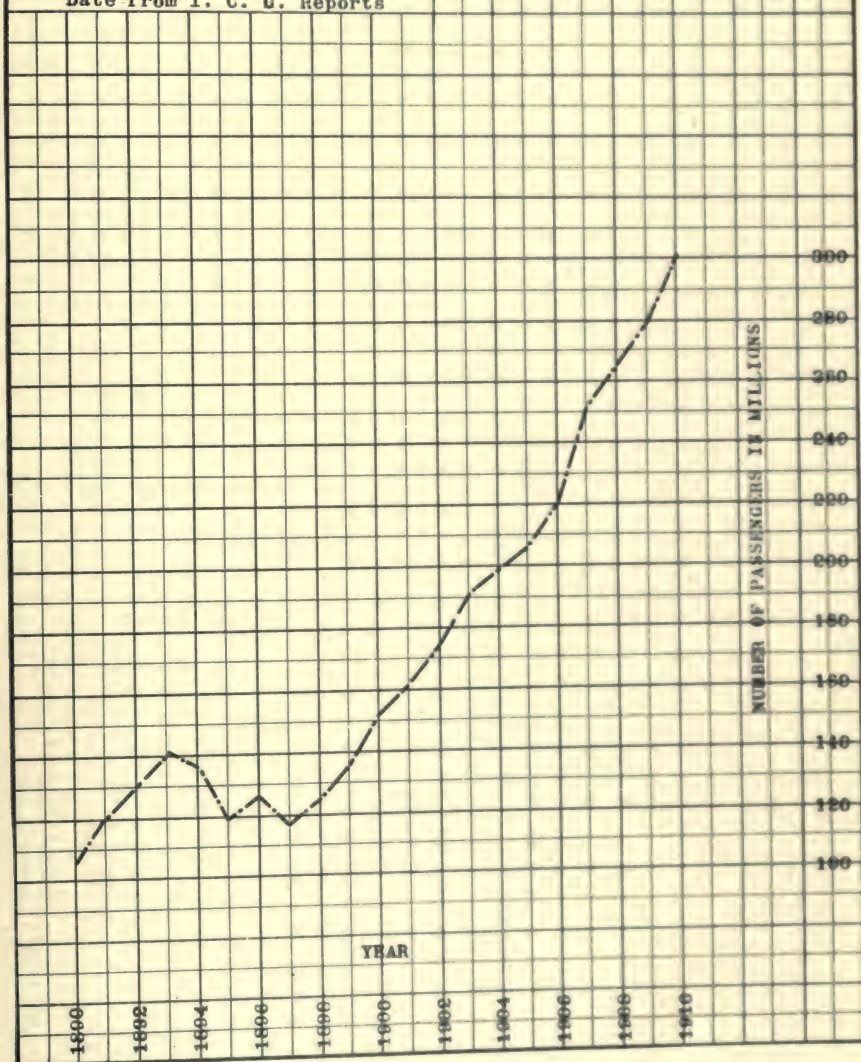
Data from I. C. C. Reports



RAILROAD STATISTICS

NUMBER PASSENGERS CARRIED IN WESTERN DIVISION of the UNITED STATES

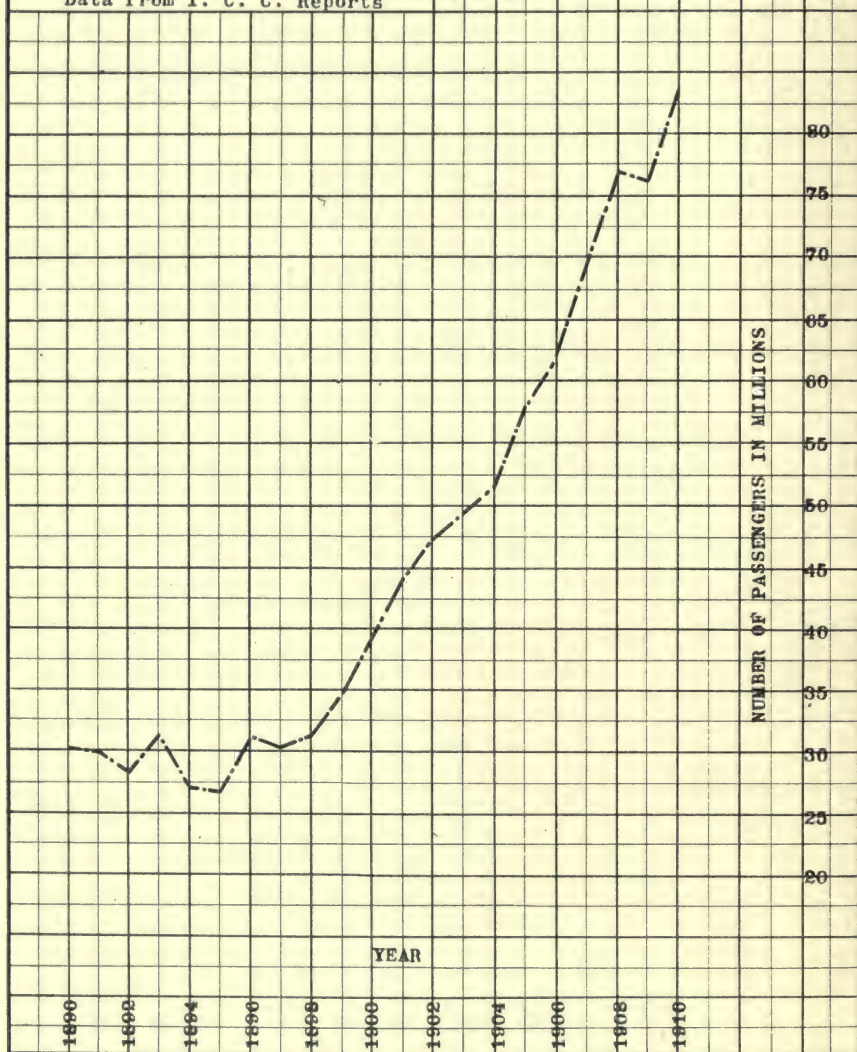
Date from I. C. R. Reports



RAILROAD STATISTICS

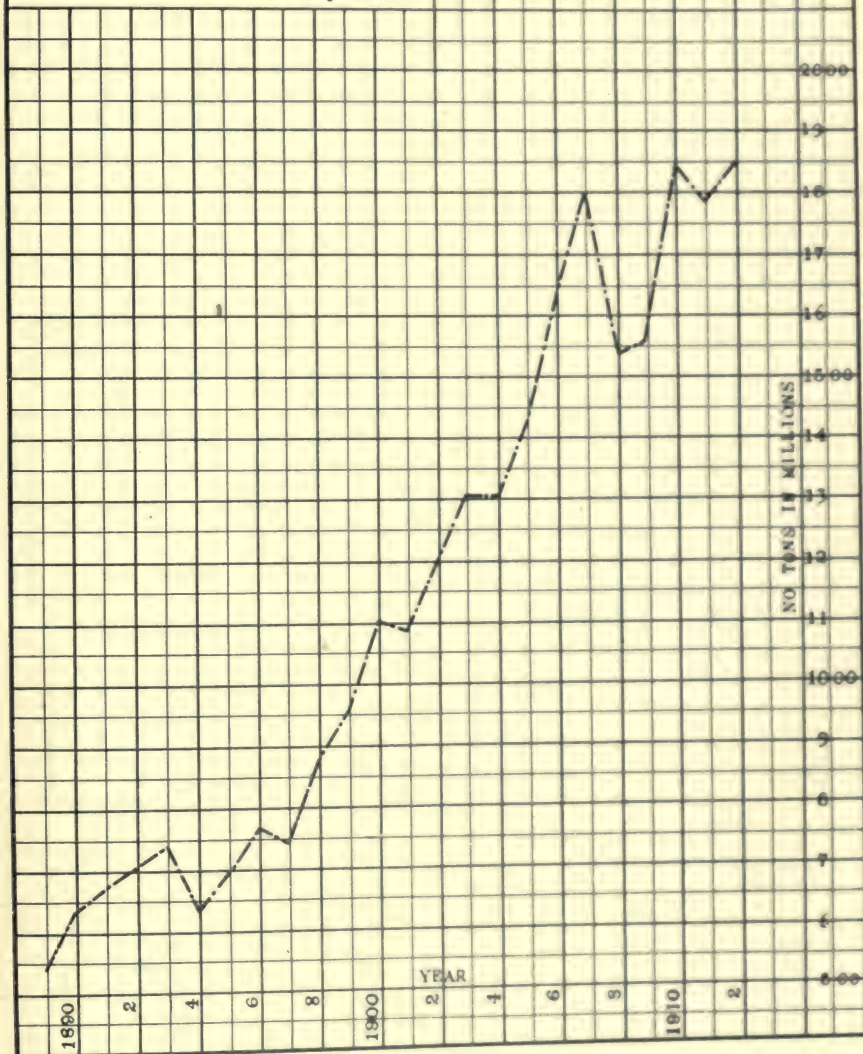
NUMBER PASSENGERS CARRIED IN SOUTHERN DIVISION of the UNITED STATES

Data from I. C. C. Reports



RAILROAD STATISTICS
 TONS OF FREIGHT CARRIED
 in the
 UNITED STATES

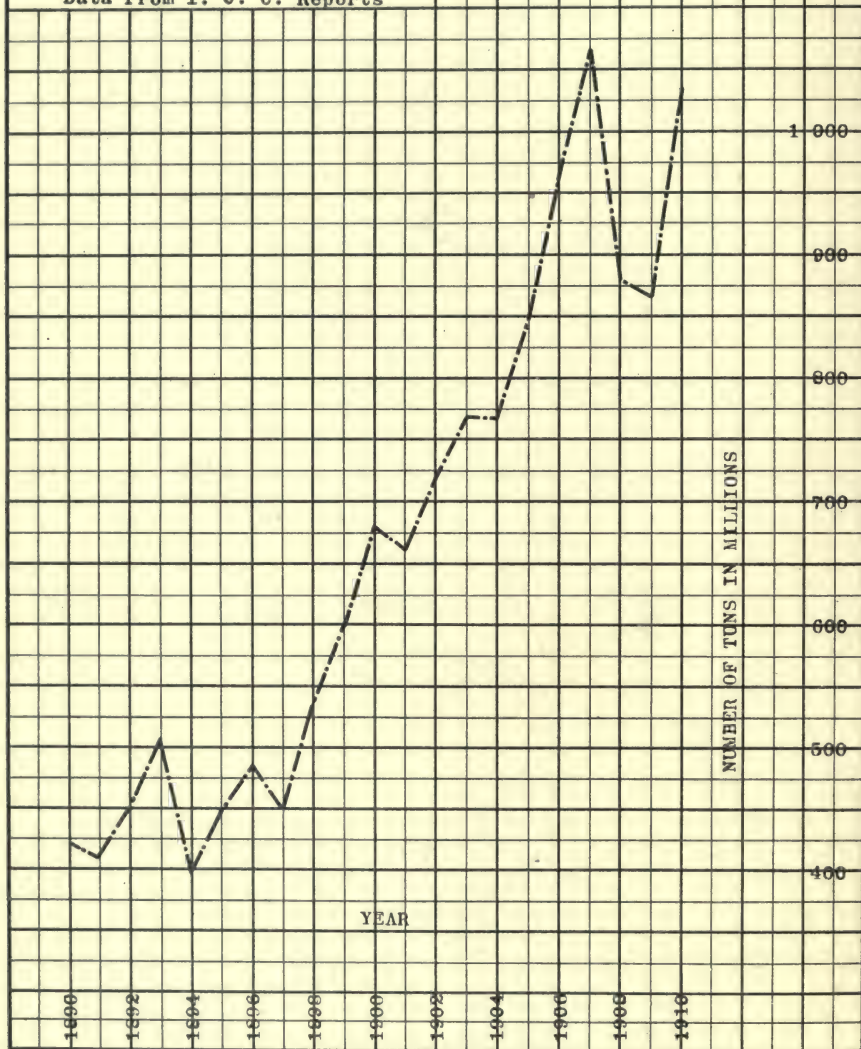
Data from I. C. C. Reports



RAILROAD STATISTICS

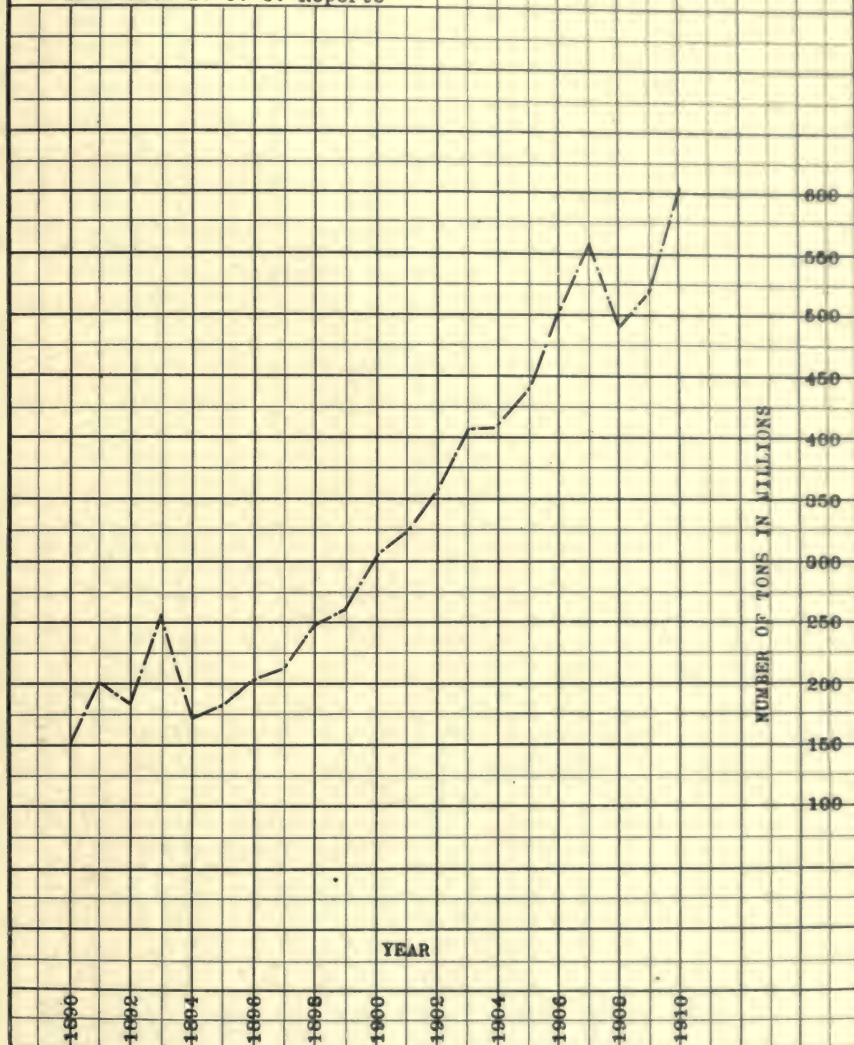
TONS OF FREIGHT CARRIED IN EASTERN DIVISION of the UNITED STATES

Data from I. C. C. Reports



RAILROAD STATISTICS
 TONS OF FREIGHT CARRIED
 IN WESTERN DIVISION
 of the
 UNITED STATES

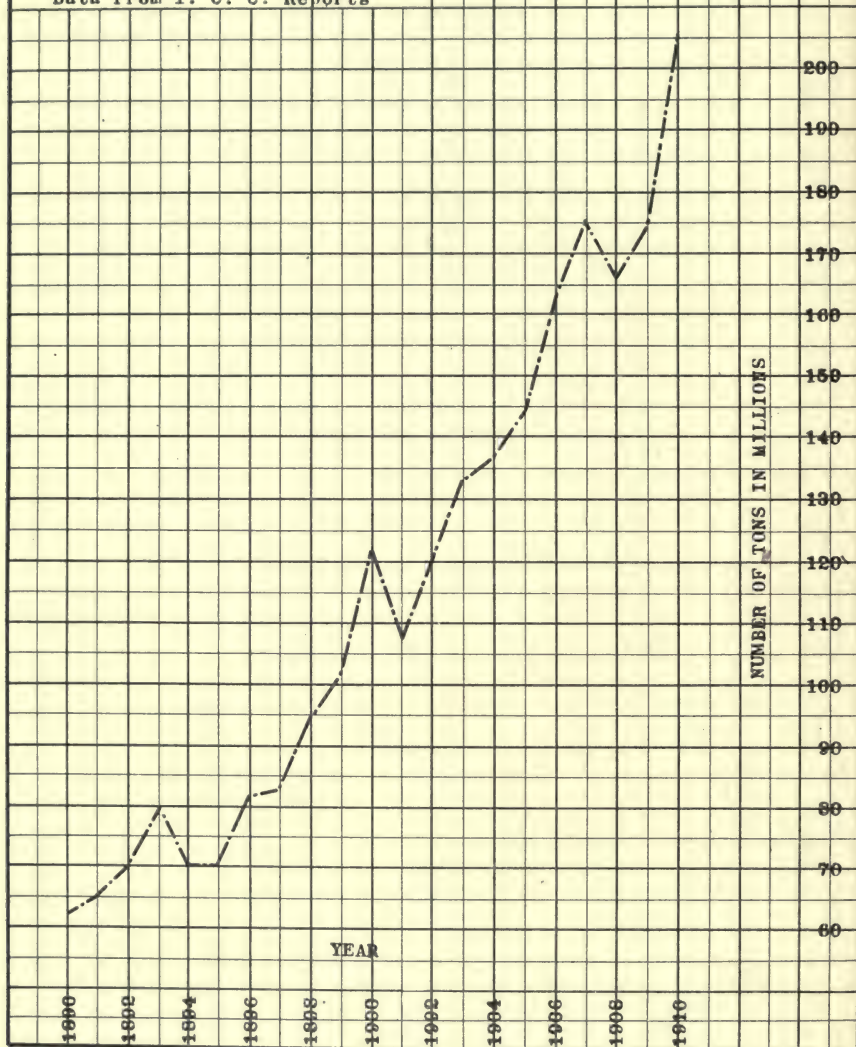
Data from I. C. C. Reports



RAILROAD STATISTICS

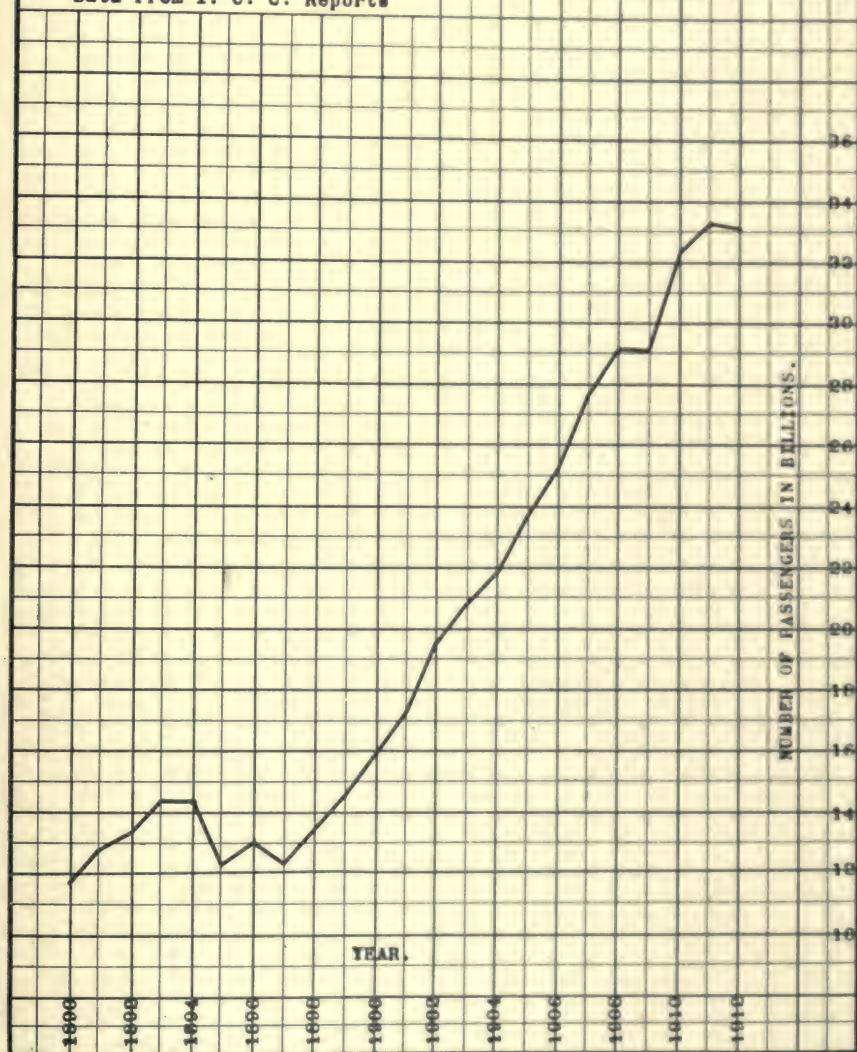
TONS OF FREIGHT CARRIED IN SOUTHERN DIVISION of the UNITED STATES

Data from I. C. C. Reports



RAILROAD STATISTICS
NUMBER PASSENGERS
CARRIED ONE MILE
in the
UNITED STATES

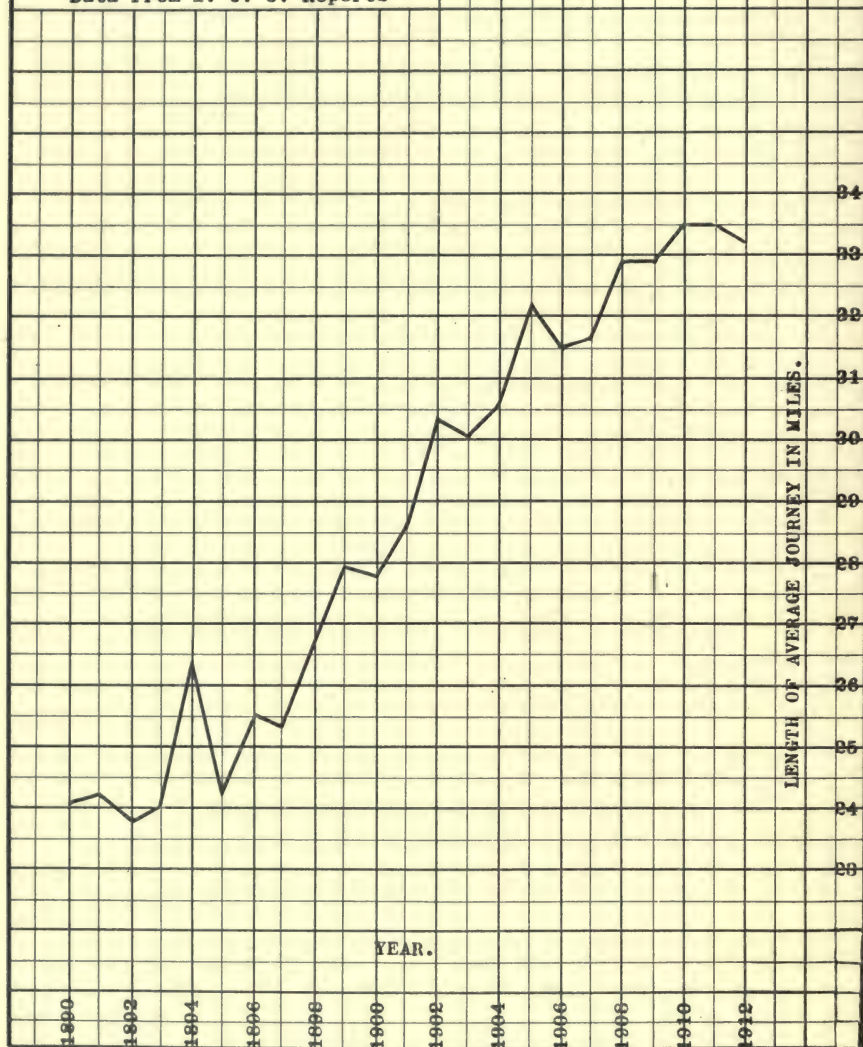
Data from I. C. C. Reports



RAILROAD STATISTICS

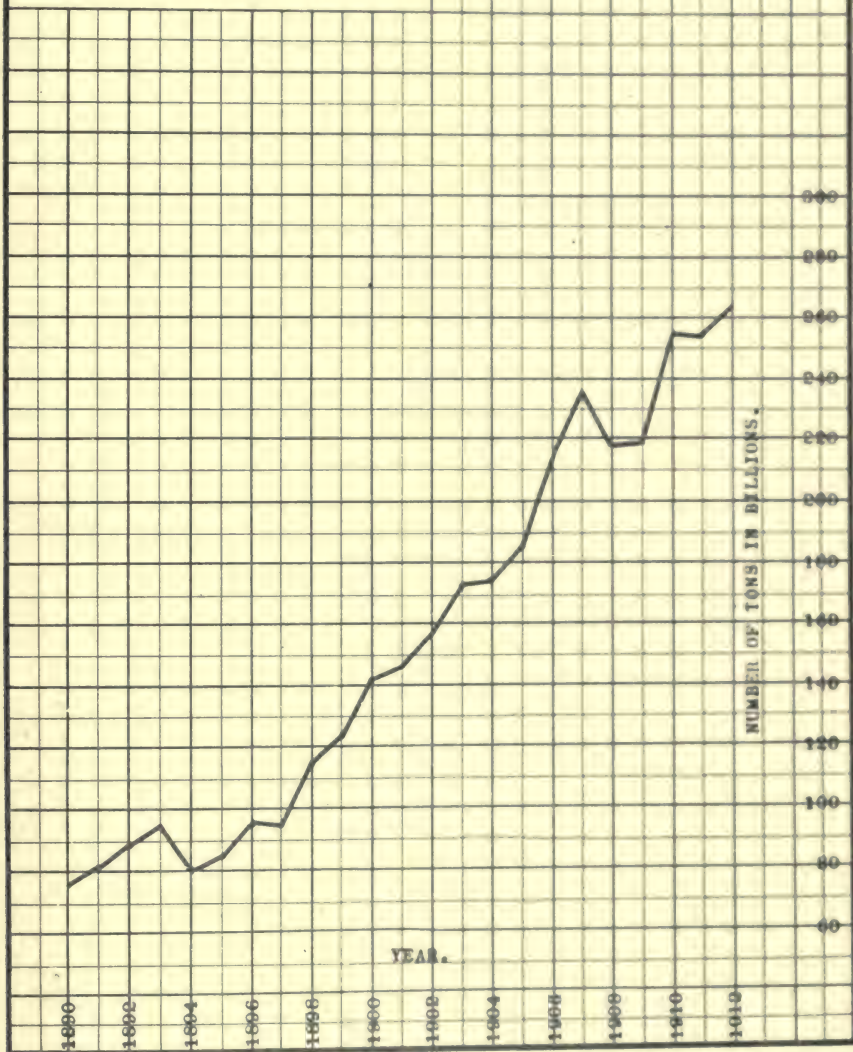
AVERAGE JOURNEY PER PASSENGER in the UNITED STATES

Data from I. C. C. Reports



RAILROAD STATISTICS
TONS OF FREIGHT CARRIED ONE MILE
 in the
 UNITED STATES

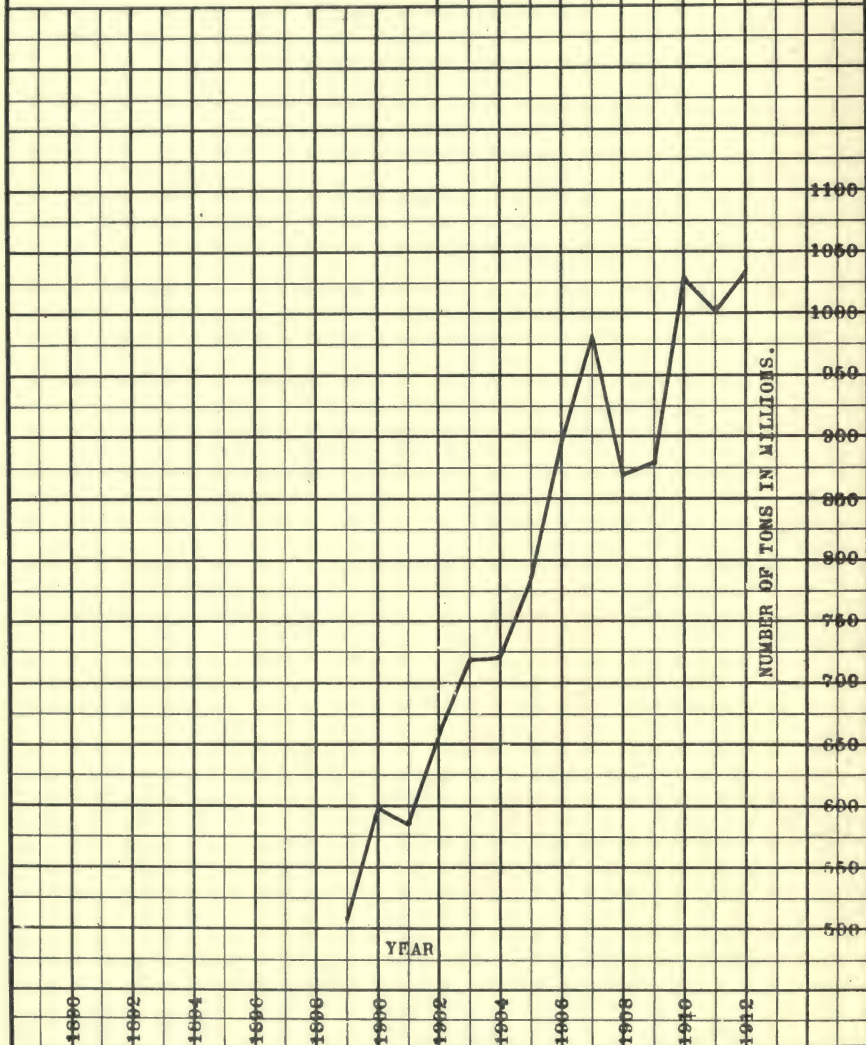
Data from I. C. C. Reports



RAILROAD STATISTICS

TONS OF FREIGHT CARRIED
in the
UNITED STATES
TONNAGE FROM OTHER LINES EXCLUDED

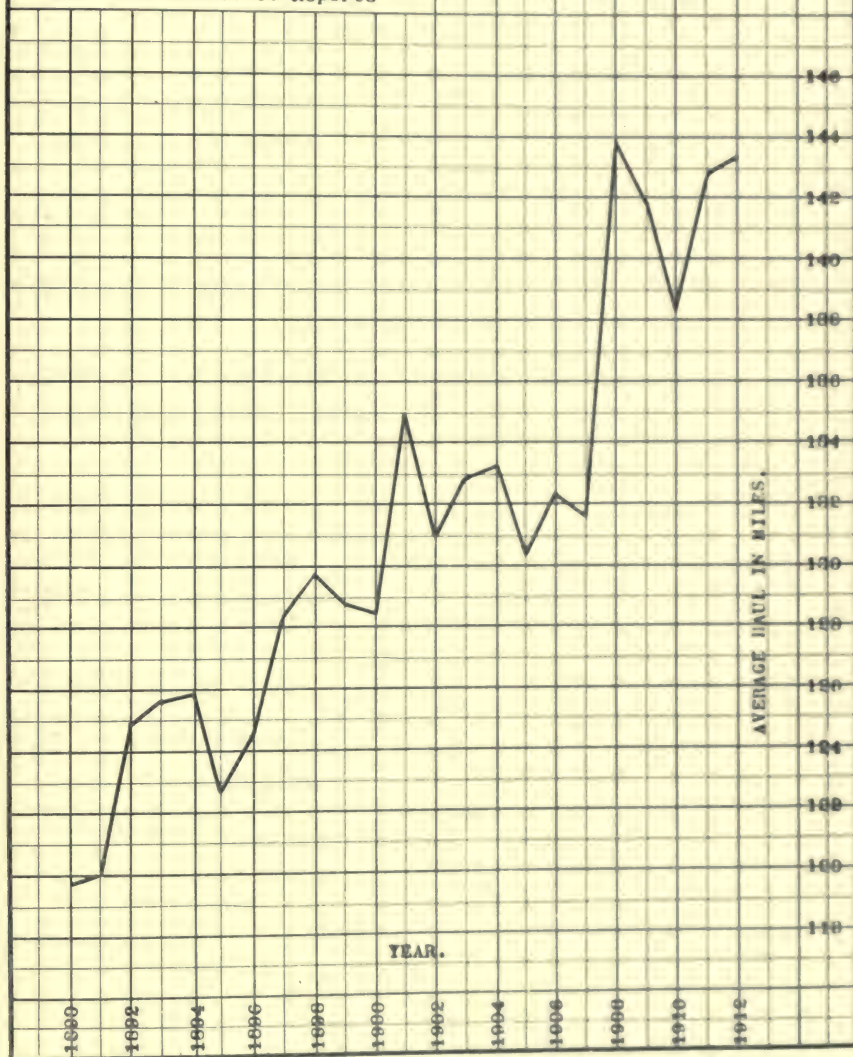
Data from I. C. C. Reports



RAILROAD STATISTICS

AVERAGE HAUL PER TON OF FREIGHT
TYPICAL HAUL
of the
AVERAGE RAILWAY

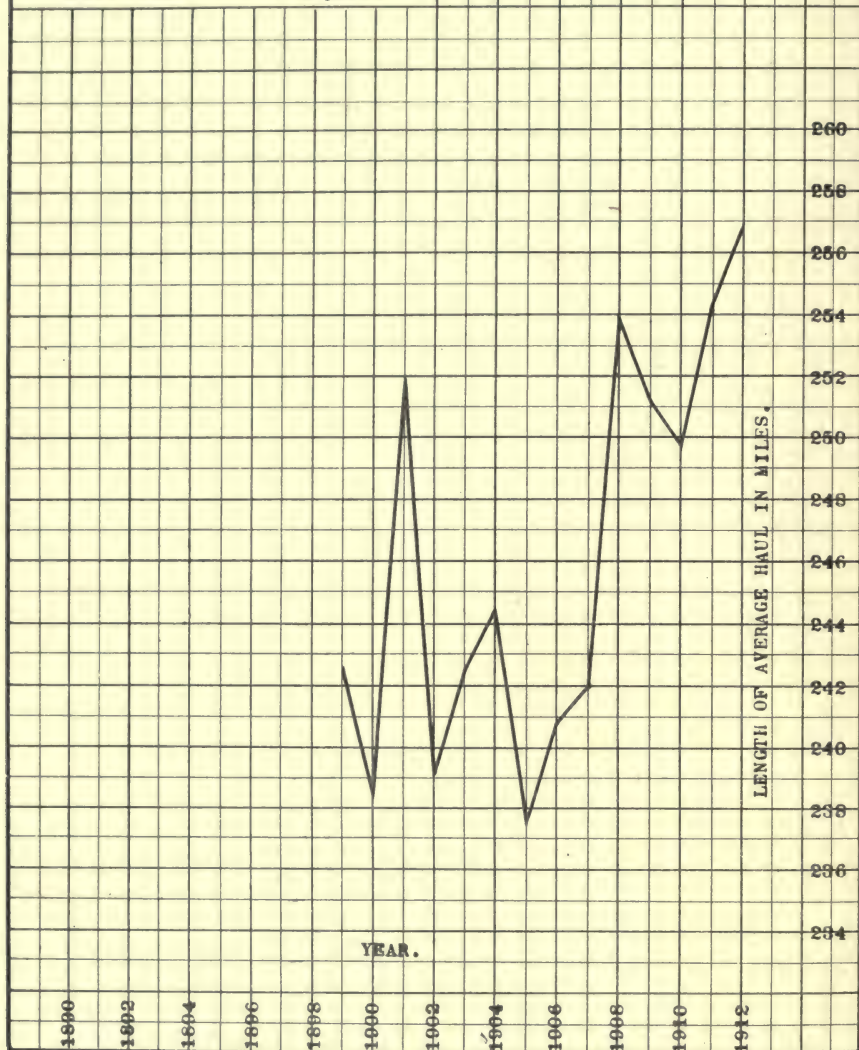
Data from I. C. C. Reports

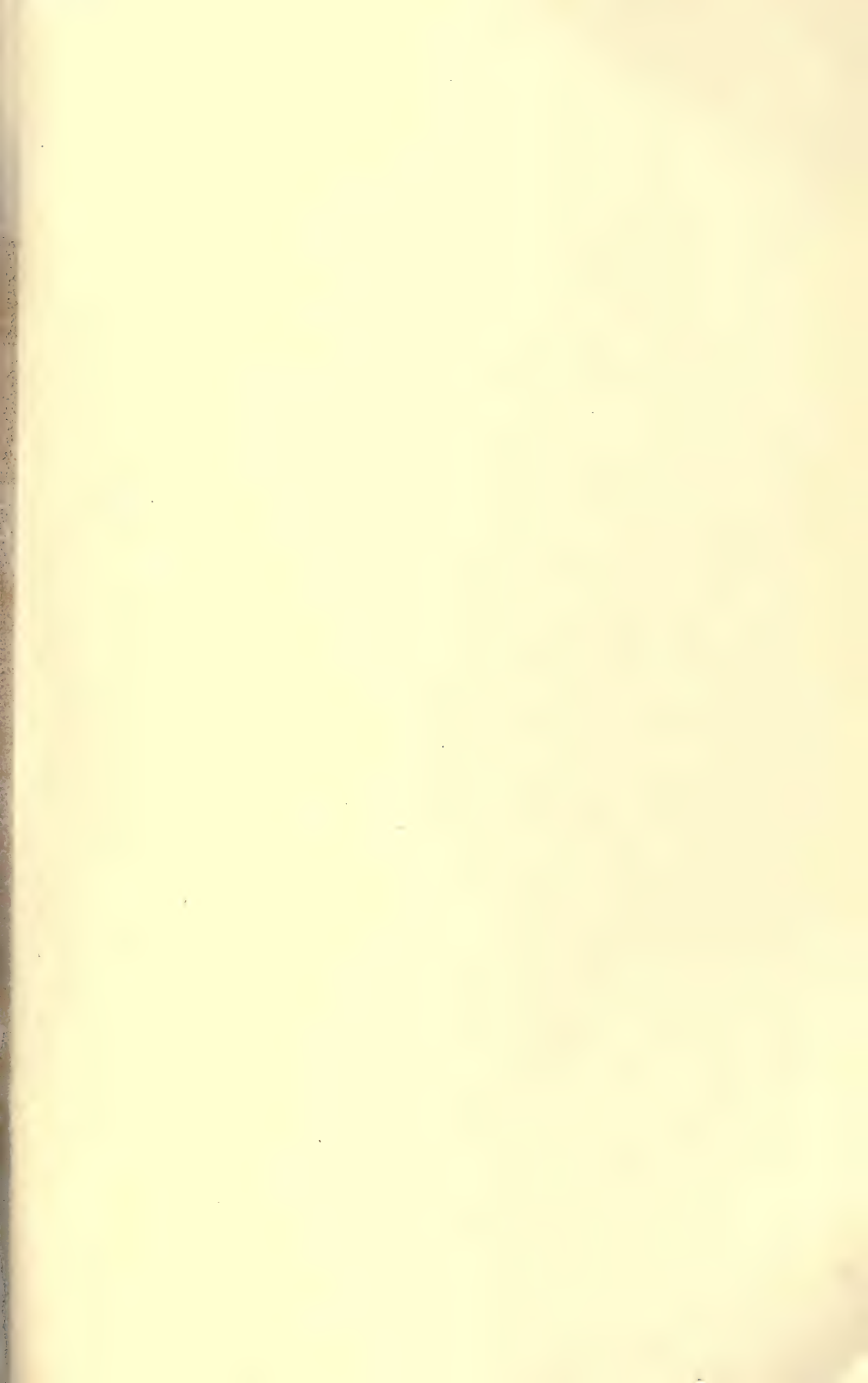


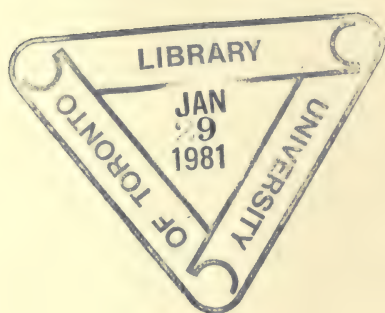
RAILROAD STATISTICS

AVERAGE HAUL PER TON OF FREIGHT
TYPICAL HAUL
ALL RAILWAYS REGARDED AS A SYSTEM

Data from I. C. C. Reports









29/9/83

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